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THE BIRD LIFE of LOUISIANA



BULLETIN 28
DEPARTMENT OF CONSERVATION
STATE OF LOUISIANA
1938

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Painting by George M. Sutton

Courtesy of New York Zoological Society

THE IVORY-BILLED WOODPECKER
Campephilus principalis (Linnaeus)

Largest and most spectacular of North American woodpeckers, the Ivory-billed Woodpecker is one of the rarest of all North American birds. The Department of Conservation of Louisiana is carefully guarding one of the few known areas where this unusually handsome and interesting species still exists. So near is the species to extinction that only by the most rigid protection can we hope to enable the Ivory-billed Woodpecker to survive.

STATE OF LOUISIANA
DEPARTMENT OF CONSERVATION

William G. Rankin, Commissioner

Bulletin No. 28

THE BIRD LIFE OF
LOUISIANA

BY
HARRY C. OBERHOLSER



Published in cooperation with the Biological Survey,
United States Department of Agriculture

BY THE
DEPARTMENT OF CONSERVATION
Civil Courts Building
New Orleans
June, 1938

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**LOUISIANA
DEPARTMENT OF CONSERVATION**

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III

FOREWORD

Abundant evidence of the value of the educational program of the Louisiana Department of Conservation is given by the great demand for information regarding the natural resources of our State. Such requests for literature and lectures come from individuals, sportsmen's and other organizations, and particularly from schools of all kinds throughout Louisiana. As one means of presenting to the public such information in usable form, the Department of Conservation issues a series of bulletins, in which there are set forth the results of research in various branches of the Department.

The study of birds offers one of the most interesting and instructive approaches to the whole field of natural history. Birds form a relatively small and compact group so that it is possible for a reasonably studious and industrious amateur to obtain a knowledge of practically all the birds of any one North American locality. Other characteristics of birds, their often bright and sharply patterned plumages, their varied and interesting calls and songs, their wide range of nesting habits, all likewise afford additional appeal to the nature lover and to all who are fond of the out-of-doors.

Birds have additionally a highly practical value. The game species form the basis of a big American business. The vast army of American hunters must be provided with guns, ammunition, boats, supplies, and personal services, to the aggregate value of many millions of dollars annually. Birds directly affect and improve the interests and welfare of agriculturists and horticulturists everywhere. Birds by their food habits serve as an invaluable check on destructive insects and injurious weeds. Day by day, season by season, and year by year they serve man well.

The previous publications of the Department of Conservation concerning the birds of Louisiana have long

been out of print. It was therefore projected five years ago that there be published an account of the birds of the State more comprehensive than any previously in existence. As originally planned under the administration of then Commissioner Robert S. Maestri, the work was to have been presented in a single volume. As preliminary to this, an ornithological survey of the State was conducted by Dr. Harry Church Oberholser, accompanied by the Chief Biologist of the Department of Conservation, James Nelson Gowanloch.

Doctor Oberholser, who is Senior Ornithologist of the United States Biological Survey, has had a career of unexcelled distinction in his contributions to this field of science. He has served for twenty-six years as a member of the committee of the American Ornithologists' Union charged with responsibility for the scientific acceptance and standardization of the species and subspecies of North American birds. He has been in charge of many most important investigations. He is a member of nearly all the ornithological societies in the world. In the course of his scientific field work, which has covered all forty-eight states of the Union and all nine provinces of Canada, Doctor Oberholser has spent much time at various periods in the State of Louisiana. He has in this bulletin gathered together all available published and unpublished records relating to the birds of the State, and has included also a great number of records, some of them unique, which have been the result of field work by many members of the Department of Conservation.

I wish to thank Doctor Oberholser for his generous, unstinted, and painstaking cooperation in the preparation of this volume.

Due to the increase of our knowledge of the birds of the State, the initial plan of publication in one volume has been altered. This volume by Doctor Oberholser, entitled "The Bird Life of Louisiana," Department of Conservation Bulletin Number 28, will shortly be followed by a second volume, Bulletin Number 29, which

will be supplemental to Bulletin Number 28. This second volume, prepared by James Nelson Gowanloch, Chief Biologist of the Department of Conservation, will present in compact form and make readily accessible additional information concerning the birds of the State, particularly such supplemental information as is necessary to teachers and to bird students who may not have access to the many and various general publications on ornithology.

I hope that these publications will assist in widely disseminating information regarding our rich Louisiana bird life, and particularly that they will serve to aid the efforts of teachers everywhere throughout the State in educating students to a richer appreciation of the aesthetic beauty and practical value of our birds as an important part of our wild life.



Commissioner

New Orleans, La.
March 19, 1938.

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INTRODUCTION

FEW comparable parts of the United States have a bird fauna as rich and as interesting as that of Louisiana.

Although the water bird population of the Gulf Coast region of this State is more conspicuous and has received more attention than the bird life of the interior, there are many places other than the coast where rare and attractive birds, often in large numbers, will reward the ornithologist who seeks them.

Some of the reasons for this abundance are not far to seek. The geographical position of Louisiana, situated as the State is, in the southern part of the Mississippi River valley and along the Gulf of Mexico, together with its physical features, contribute to its attractiveness for birds.

There are in Louisiana several rather distinct types of country, which are represented by (1) the beaches and islands; (2) the coastal marshes and prairies, which border the entire coast; (3) the semi-tropical bayous and humid river valleys, chiefly those of the Mississippi, Atchafalaya, Red, and Ouachita Rivers, with their tributaries; and (4) the wooded and more or less open uplands.

The coastal beaches and islands are low, mostly sandy, and in many cases covered only with various kinds of beach grass and other low vegetation, although on some of the islands and adjacent parts of the mainland there is a growth of live-oaks and sometimes various low shrubs.

The wide belt of marshland that borders the entire coast is covered with a growth of various kinds of marsh grass, interrupted only by occasional strips or patches of timber on rather higher ground or along the streams. In many places there are also considerable areas of coastal prairie, which are higher and drier than the marshes. On these often there are larger growths of trees.

The alluvial bottomlands of the streams support a rich arboreal and shrubby growth of vegetation, including such trees as the live-oak, cypress, and tupelo.

The uplands are largely wooded, except where they have been cleared, and support forests of hardwoods, pines, or mixed woodlands.

Each of these types of country has its more or less distinctive birds, and some of the bottomland forests, such as those along the Tensas River in the northeastern part of the state, have a remarkably rich bird fauna.

All of Louisiana lies within the Austroriparian Fauna, or Humid Division, of the Lower Austral Life-zone; and that portion, including the coastal marshes and prairies and the humid river valleys, is a part of the so-called gulf or semi-tropical strip of the Austroriparian, being really a somewhat intermediate belt between this and the Tropical Zone.

The birds of Louisiana early attracted attention, for as long ago as 1758 an account of them was published by Du Pratz, and soon thereafter certain birds were described from this region by Brisson, Linnaeus, Buffon, and Latham. John James Audubon spent many months in Louisiana studying its birds, and he described several new species from his collections in this State. Later in the nineteenth century two naturalists—J. Fairie at Prairie Mer Rouge in 1853, and Gustavus Würdemann about Calcasieu Pass in 1854—made substantial collections of Louisiana birds, which were transmitted to the Smithsonian Institution, and later placed in the United States National Museum. Many of these specimens are still in Washington and furnish interesting records. The number of more recent ornithologists who have been attracted by the lure of Louisiana includes, among others, Henry W. Henshaw, E. W. Nelson, F. W. Langdon, Charles W. Beckham, A. C. Bent, T. Gilbert Pearson, A. K. Fisher, Ned Hollister, Vernon Bailey, Arthur H. Howell, Herbert K. Job, W. L. McAtee, E. R. Kalmbach, A. M. Bailey, J. D. Figgins, Earl G. Wright, J. K. Strecker, and Thomas D. Burleigh. Though many have come to Louisiana from elsewhere to study its birds, there have been relatively few resident ornithologists. Professor George E. Beyer of Tulane University at New Orleans devoted much time to

the investigation of Louisiana bird life, and published the first list of the birds of the State. Gustave Kohn, also a resident of New Orleans, long studied the bird life of the State, and contributed much to advance local ornithological knowledge. Andrew Allison and H. H. Kopman were active during the latter part of the nineteenth century and the early part of the twentieth century, and collaborated with Professor Beyer in a second list of the birds of the State, which was completed by H. H. Kopman alone. Much information regarding the birds of Louisiana has likewise been gathered by E. S. Hopkins, George H. Lowery, Jr., Edward Butler, A. B. Blakemore, H. L. Ballowe, Stanley C. Arthur, G. S. Guion, E. A. McIlhenny, Robert Butler, J. S. Campbell, Winston E. Nolan, Ambrose Daigre, W. M. Sprinkle, E. L. Moseley, and L. E. Hicks.

The largest and most important collection of Louisiana birds is that brought together by Gustave Kohn of New Orleans. He was greatly interested in all branches of natural history, but his collection of birds is of particular value. It is now a part of the collection of the museum of Tulane University, and consists of mounted birds, a good collection of skins, and some birds' eggs. There is also a representative mounted collection of birds in the museum of the Louisiana Department of Conservation at New Orleans; and a small collection of mounted birds in the museum of the Louisiana Department of Agriculture in the State Capitol at Baton Rouge; also a rapidly growing collection in the Louisiana State University at Baton Rouge; and another in the Louisiana Polytechnic Institute at Ruston. There are some birds from Louisiana in the United States National Museum, the Museum of Comparative Zoölogy at Cambridge, Massachusetts, the American Museum of Natural History in New York City, the Chicago Academy of Sciences at Chicago, Illinois, the Colorado Museum of Natural History at Denver, Colorado, the Field Museum of Natural History at Chicago, the Academy of Natural Sciences of Philadelphia, Pennsylvania, and doubtless in also other museums.

In the preparation of the present report the writer has, in addition to published information, made use of all the

specimens available in the several collections above mentioned, besides the numerous records in the United States Bureau of Biological Survey, and facts from many individuals who have furnished the results of their observations; as well as the notes gathered by the writer on three winter trips and one summer trip in the State, the winter journeys chiefly for the investigation of waterfowl, and the one in summer for study of the land birds and the breeding colonies of the coast and the interior. During these visits the writer has seen most parts of Louisiana. The list of birds here presented totals 430 species and subspecies, not including 22 birds in the hypothetical list. The latest previous list of Louisiana birds, which was published by the Louisiana Department of Conservation, comprised 353 species and subspecies, so that the present investigation has resulted in the net addition of 77 forms to our knowledge of the State's avifauna.

To the authorities of the institutions mentioned above, and to the following persons who have aided with specimens, notes, and other information, the writer wishes to express his sincere thanks: George H. Lowery, Jr., A. M. Bailey, J. S. Campbell, Winston E. Nolan, Robert Butler, G. S. Guion, Dr. Frank M. Chapman, Dr. T. Gilbert Pearson, J. D. Figgins, Dr. Herbert Friedmann, R. A. Steinmayer, Dr. Witmer Stone, Wharton Huber, W. Rudyerd Boulton, Dr. Louis B. Bishop, Donald R. Dickey, Dr. William H. Gates, E. G. Wright, J. L. Peters, J. T. Zimmer, W. E. C. Todd, Dr. Charles W. Townsend, Dr. John M. McBryde, H. H. Kopman, E. L. Moseley, A. C. Bent, J. J. Kuhn, George L. Tiebout, Jr., S. Ward, Jacques Berlioz, George Willett, John Dymond, C. S. Harris, E. A. McIlhenny, and Richard Gordon, as well as many members of the United States Biological Survey. To Mr. A. M. Bailey, in particular, there is due a further cordial expression of gratitude for the unusual series of bird photographs that he has obligingly furnished for use in this connection. Likewise the permission of the National Association of Audubon Societies to use the colored plates is much appreciated.

Finally, the writer is under still greater obligation to Mr. William G. Rankin, the present Commissioner of the Louisiana Department of Conservation; to Mr. Robert S. Maestri, the former Commissioner, under whose administration and at whose request this study was undertaken; to Mr. Armand P. Daspit, Director of the Wild Life and Fur Division; and especially to Mr. James P. Guillot, its genial and efficient Secretary. Likewise, much credit is due Mr. James N. Gowanloch, and the various other officials of the Department, at New Orleans and elsewhere in the State, too many to be mentioned by name, who have been uniformly courteous and helpful in every way, and without whose cooperation the present result would have been practically impossible.

Notwithstanding the considerable amount of work already done by resident and visiting ornithologists in Louisiana, there still remains much to be accomplished before we shall possess anything like a comprehensive knowledge of the birds of the State. The present report is an attempt to bring together our current information in the hope that this may stimulate further observations and research. In many localities in the State, particularly in the northern and central portions, very little ornithological work has been done, especially during the summer and the winter, and our knowledge of the distribution, and particularly the breeding seasons, as well as habits of birds in Louisiana is relatively small. The lack of adequate definite records for many species brings this most forcibly to the attention of anyone who carefully studies the bird life of the State.

In citing the records of bird distribution in Louisiana and in the other statements made, the writer has here given the definite information that he could find, incomplete and unsatisfactory as in many cases it is, hoping that this may be a guide to future investigators, to show what is most lacking. Since so few actual records of Louisiana birds have appeared in print, it seems worth while to give, even for the common species, a considerable number of definite unpublished occurrences, so that these may henceforth be available in the literature for the use of anyone interested

in the birds of any particular locality. The statement of ranges given for Louisiana cites the outlying records, thus outlining the range in the best manner possible; but this in many cases is admittedly inadequate, since further field work will undoubtedly extend many of the ranges to the very boundaries of the State. The need for additional field work applies also to the limits of the breeding seasons of the various species and the dates of eggs found, but in both these it seems better to give what is definitely known, as a basis for future research. No one more fully than the writer recognizes the shortcomings of the present book; but even so, it may serve a good purpose if, by calling attention to the possibilities, it should but stimulate greater interest in the exceptional opportunities for really worthwhile ornithological investigations that exist in the wonderful forests, prairies, swamps, marshes, beaches, bayous, lakes, and streams of the State of Louisiana.

THE MIGRATION OF BIRDS

The mystery of bird migration is always attractive. Migration is one of the most distinctive features of bird life, and even yet is not fully understood. As commonly considered it is the regular seasonal movement of birds to and from their breeding grounds. Generally speaking, the origin of the migratory movement of birds, in North America at least, dates back to the time when the whole northern part of the country was covered with ice, and this naturally crowded southward the former tropical inhabitants. When the ice receded the birds reoccupied the uncovered areas but continued their migratory movements back and forth each year, even in places where the lack of food, which was one of the primary causes of their original exclusion from the territory, ceased to be a factor. This theory, however, does not fully explain the various kinds of migration, such as those of tropical sea birds that move regularly northward after the breeding season.

In North America most of the migratory movements are southward after the breeding season, and northward in the spring. There is much variation, however, in the time of the beginning of these movements. Some species, like the Yellow Warbler and many species of shorebirds, begin to move just as soon as the actual season for nesting is over. Other species, like the Towhee and certain warblers, remain on their breeding grounds for several months after they are through breeding, and move southward only at the advent of cold weather.

Similar variation exists in the distances to which birds migrate. Some kinds of birds, or at least a considerable proportion of the individuals that make up the species, may migrate only a few hundred miles, or even less, from their summer home to their wintering ground; and in some cases the migration consists chiefly of the descent of mountain birds to the adjacent lowlands. Some species, however, travel to a great distance, even several thousand miles, as, for instance, the shorebirds and some of the warblers that

breed in the northern part of North America, which migrate to southern South America. Perhaps the longest migration of any bird is that of the Arctic Tern, which travels southward approximately 11,000 miles.

In traveling these considerable distances the birds usually pursue a more or less regular route. Sometimes this route is a rather narrow lane, as it were, sometimes it is a broad area extending well across the continent; but generally speaking there are several more or less well-defined routes of migration between the United States and Central or South America. One extends southeast from the Arctic to about Labrador, and thence across the sea to South America; another along the Atlantic coast and across through the West Indies; another from the southern end of Florida through Cuba and across the Caribbean Sea to the northern part of South America; another across the Gulf of Mexico, from the southern part of the Gulf States to Yucatan and adjacent parts of Mexico, and thence south-eastward through Central America to South America; another across the extreme western end of the Gulf of Mexico from Texas to Mexico; another through the Rocky Mountain region, and south through central Mexico; and still another along the Pacific Coast. There are many variations of these, and certain species have peculiar migration routes which do not conform to the general routes above mentioned, but which are entirely or partly different. It is of interest also that certain birds, like the Golden Plover, Eskimo Curlew, and Connecticut Warbler, do not use the same route in both spring and fall, but pass south usually by an eastern way, and on their return journey northward follow a route that lies much farther west.

Certain birds migrate singly, others in flocks. Of some species the adults and young migrate separately, while of others they migrate in company. Many birds, like the hummingbirds, Chimney Swift, shrikes, and swallows, migrate only or chiefly by day. Many others, such as various kinds of warblers and thrushes, travel almost exclusively by night, spending the days feeding along the way. The weather, undoubtedly, has considerable influence on the

migration of birds, since a very heavy storm will probably delay the migration at the place where the storm is raging, and exceedingly cold weather in the spring will retard the beginning of migration whenever the low temperature exists at points where the birds might begin their migration journey. A more or less quiet and overcast night, however, seems to be an ideal one for the migratory movements of birds, and, on such occasions in favorable locations, large numbers may be heard passing over.

The altitude at which migrating birds move has been a matter of considerable discussion. Certain species travel very close to the earth, or, at most, within a few hundred yards of it, and the greater number of the migrants ordinarily fly not over 2,000 feet above the ground. However, on certain occasions, birds ascend to higher altitudes, particularly from the necessity of passing over mountain ranges, and actual observations have been made of birds that were several miles above sea level, although, in these cases, not so much farther above the highest point over which they flew as might be expected from such a high elevation.

The speed of migration is, of course, determined primarily by the limits of power of flight of the individual species, which varies greatly; and a distinction, of course, should be made between the distance that a single individual can fly and the average rate of progression of the species as a whole. Many individual birds, even small birds like the hummingbirds, can fly 60 miles per hour or more, and yet in migrating, the individuals of most species probably do not average more than 20 to 40 miles per hour. The average advance of the species, however, when a great distance is taken into consideration, and land birds only considered, probably will not average more than 40 to 70 miles per day, although the farther north the species reaches, and the later the season becomes, the faster the average daily advance. Many species, however, move even much more slowly than this, some perhaps under 20 miles per day.

The most remarkable feature of migration, however, is the almost unerring accuracy with which birds find their way, even across a wide expanse of water or a continent, at such an altitude that at night they would be unable to profit much by landmarks; and when it is considered that certain birds travel from their summer home perhaps 2,000 miles or more to their winter home and return, as has been proved by bird banding, to the same bush in the winter, it is evident that we are dealing with a more than ordinary occurrence. It is apparent that some hereditary impulse must guide them in their migration journeys.

On these long travels it is inevitable that there should be many hazards, and the accidents to migrating birds are numerous and oft-times disastrous. Sometimes millions of birds are killed by storms of one kind or another, as for instance on the plains, when sleet storms and ice storms descend on the migrating multitudes. Severe storms at sea, when land birds are migrating across the open water, almost invariably result in great loss of life, while light-houses, monuments, and even telegraph and telephone wires take a large toll of birds that are attracted by light, or dash against obstructions that they cannot see.

While there is much that is not yet understood about the migratory movements of birds, the study of the various phases of this activity of birds is a very valuable aid to an understanding of the whole problem of behavior of birds.

The coast of Louisiana, situated as it is in the central portion of the northern coast of the Gulf of Mexico, lies directly in the migration route across the Gulf of Mexico that is used by so many birds traveling from the Gulf States to Central and South America. On the Gulf shore, in southern Jefferson Parish, is situated Grand Isle, a sandy coastal island that, however, supports a considerable growth of live-oak trees. By reason of its position and apparent attractiveness to birds, it seems to be a port of call for large numbers of northward migrating small birds in the spring and their first stopping place on the edge of the mainland of the United States. Few places seem to be so advantag-

eous for the study of the migratory movements of birds in the spring as does Grand Isle, and the large numbers of migrating birds that are to be found at this locality during the northward migration when weather conditions are right, are almost unbelievable. It offers an opportunity for further investigation such as is presented by few localities.

A CALENDAR OF BIRD MIGRATION IN LOUISIANA

The following tables show the dates of arrival and departure of birds in Louisiana. Those for New Orleans have been compiled from the United States Biological Survey migration reports of many observers, collectively covering a considerable term of years, though the available number of records for each species varies greatly. The records for Monroe, in Northern Louisiana, are based entirely on the observations of George H. Lowery, Jr., and cover a period of three years. Comparison of the two lists will serve to indicate the difference in the appearance and disappearance of migratory birds in the northern and southern parts of this State.

In the case of species that ordinarily migrate, no account is taken of accidental or casual summer or winter occurrence, but the dates given in these tables represent the normal arrival and departure of the species.

LOUISIANA BIRD MIGRATION CALENDAR

NEW ORLEANS, LA.

Spring Migration (Arrival)

NAME OF BIRD	Average date of spring arrival	Earliest date of spring arrival
Florida Nighthawk	April 13	April 8, 1894
Chimney Swift	March 24	March 13, 1897
Ruby-throated Hummingbird	March 25	March 7, 1897
Scissor-tailed Flycatcher	.....	March 25, 1894
Crested Flycatcher	March 28	March 12, 1894
Least Flycatcher	.....	March 30, 1902
Barn Swallow	April 1	March 20, 1895
Purple Martin	February 14	January 31, 1894
Wood Thrush	March 31	March 25, 1900
Olive-backed Thrush	.....	April 2, 1895
Gray-cheeked Thrush	April 22	March 27, 1897

Spring Migration (Arrival)—Continued

NAME OF BIRD	Average date of spring arrival	Earliest date of spring arrival
Veery	April 19	April 14, 1905
Blue-gray Gnatcatcher	March 23	.....
Yellow-throated Vireo	.....	April 4, 1896
Red-eyed Vireo	March 23	March 18, 1894
Eastern Warbling Vireo	April 5	March 27, 1897
Black-and-White Warbler	March 27	March 24, 1902
Prothonotary Warbler	March 18	March 13, 1888
Worm-eating Warbler	April 9	April 6, 1902
Blue-winged Warbler	.....	March 22, 1898
Bachman Warbler	March 9	.....
Western Parula Warbler	March 5	February 22, 1893
Eastern Yellow Warbler	April 6	April 1, 1892
Magnolia Warbler	May 3	April 26, 1903
Cerulean Warbler	April 9	April 8, 1898
Blackburnian Warbler	April 8	.....
Ovenbird	April 8	April 6, 1895
Louisiana Waterthrush	.....	April 2, 1898
Kentucky Warbler	April 1	March 30, 1895
Yellow-breasted Chat	April 19	April 13, 1899
Hooded Warbler	March 22	March 13, 1897
American Redstart	April 7	April 5, 1902
Bobolink	April 19	April 4, 1894
Orchard Oriole	March 27	March 22, 1903
Baltimore Oriole	April 16	April 9, 1916
Scarlet Tanager	April 12	April 6, 1893
Summer Tanager	April 5	April 1, 1904
Eastern Blue Grosbeak	.....	April 8, 1898
Indigo Bunting	April 1	March 26, 1899
Dickcissel	April 21	April 6, 1894
Grasshopper Sparrow	April 2	March 30, 1895

Spring Migration (Departure)

NAME OF BIRD	Average date of spring departure	Latest date of spring departure
Yellow-bellied Sapsucker	March 18	March 19, 1904
Eastern Phoebe	March 30	April 26,.....
Tree Swallow	May 12	May 17, 1893
Eastern Hermit Thrush	April 8	April 13, 1895
Gray-cheeked Thrush	May 5	May 10, 1903

Spring Migration (Departure)—Continued

NAME OF BIRD	Average date of spring departure	Latest date of spring departure
Golden-crowned Kinglet	March 13	March 19, 1904
Ruby-crowned Kinglet	April 3	April 25, 1903
Cedar Waxwing	May 9	May 19, 1900
Bobolink	May 27	June 17, 1910
Rusty Blackbird	April 27	May 10, 1899
Rose-breasted Grosbeak	May 2	May 6, 1897
Eastern Purple Finch	.....	March 23, 1895
Eastern Goldfinch	April 4	April 11, 1896
Eastern Savannah Sparrow	May 2	May 12, 1902
Slate-colored Junco	.....	March 29, 1896
White-crowned Sparrow	.....	May 2, 1897
White-throated Sparrow	April 22	April 27, 1903

Fall Migration (Arrival)

NAME OF BIRD	Average date of fall arrival	Earliest date of fall arrival
Eastern Phoebe	October 9	September 25, 1897
Tree Swallow	August 2	July 8, 1893
Eastern Hermit Thrush	.....	September 26, 1894
Golden-winged Warbler	.....	July 23, 1898
Golden-crowned Kinglet	October 26	October 18, 1903
Ruby-crowned Kinglet	October 30	October 18, 1903
Eastern Savannah Sparrow	.....	September 23, 1895
Eastern Vesper Sparrow	.....	August 5, 1893

Fall Migration (Departure)

NAME OF BIRD	Average date of fall departure	Latest date of fall departure
Eastern Nighthawk	October 18	November 3, 1895
Chimney Swift	October 27	November 4, 1896
Ruby-throated Hummingbird	October 25	November 1, 1895
Yellow-bellied Sapsucker	October 13	October 10, 1915
Barn Swallow	October 24	November 3, 1896
Northern Cliff Swallow	.....	November 1, 1895
Purple Martin	October 8	October 22, 1894
Wood Thrush	October 14	October 18, 1903

Fall Migration (Departure)—Continued

NAME OF BIRD	Average date of fall departure	Latest date of fall departure
Veery	.....	October 17, 1903
Yellow-throated Vireo	.....	October 11, 1896
Red-eyed Vireo	October 10	October 16, 1895
Philadelphia Vireo	.....	October 10, 1896
Black-and-White Warbler	.....	October 21, 1897
Prothonotary Warbler	.....	September 24, 1893
Worm-eating Warbler	.....	September 30,
Golden-winged Warbler	.....	September 21, 1897
Tennessee Warbler	October 28	November 3, 1900
Eastern Yellow Warbler	.....	October 27, 1893
Magnolia Warbler	October 24	November 1, 1895
Black-throated Green Warbler	.....	October 28, 1899
Blackburnian Warbler	October 13	October 18, 1897
Chestnut-sided Warbler	.....	October 10, 1896
Kentucky Warbler	.....	October 19, 1895
Mourning Warbler	.....	October 7, 1896
Yellow-breasted Chat	.....	September 12, 1899
Hooded Warbler	October 22	October 25, 1899
Orchard Oriole	September 18	September 26, 1914
Scarlet Tanager	.....	October 7, 1896
Summer Tanager	October 19	October 27, 1899
Indigo Bunting	October 22	November 1, 1903
Painted Bunting	.....	October 27, 1895

MONROE, LOUISIANA

Spring Migration (Arrival)

NAME OF BIRD	Average date of spring arrival	Earliest date of spring arrival
American Egret	.....	April 19, 1931
Little Blue Heron	April 8	April 6, 1929
Eastern Green Heron	April 11	April 5, 1929
Yellow-billed Cuckoo	May 3	May 1, 1931
Florida Nighthawk	April 30	April 27, 1930
Chimney Swift	March 23	March 21, 1930
Ruby-throated Hummingbird	April 1	March 24, 1929
Eastern Kingbird	April 9	April 4, 1930
Northern Crested Flycatcher	April 15	April 5, 1931

Spring Migration (Arrival)—Continued

NAME OF BIRD	Average date of spring arrival	Earliest date of spring arrival
Acadian Flycatcher	May 7	April 26, 1931
Eastern Wood Pewee	April 19	April 10, 1930
Rough-winged Swallow	March 23	March 23, 1929
Purple Martin	March 7	February 23, 1931
Catbird	April 16	April 13, 1930
Wood Thrush	April 8	April 6, 1929
Blue-gray Gnatcatcher	March 20	March 14, 1931
White-eyed Vireo	April 3	March 31, 1929
Yellow-throated Vireo	April 17	April 7, 1931
Red-eyed Vireo	April 15	April 5, 1931
Eastern Warbling Vireo	April 7	April 5, 1930
Prothonotary Warbler	April 8	April 4, 1929
Blue-winged Warbler	April 10	April 9, 1930
Tennessee Warbler	April 23	April 20, 1931
Western Parula Warbler	March 18	March 14, 1931
Eastern Yellow Warbler	April 22	April 20, 1931
Magnolia Warbler	May 4	April 27, 1931
Black-throated Green Warbler	April 2	March 30, 1930
Blackburnian Warbler	April 5	March 30, 1929
Sycamore Warbler	April 12	April 4, 1929
Chestnut-sided Warbler	April 23	April 19, 1931
Bay-breasted Warbler	April 30	April 27, 1931
Northern Prairie Warbler	April 11	March 30, 1930
Kentucky Warbler	April 12	April 11, 1931
Maryland Yellowthroat	April 4	April 4, 1929
Yellow-breasted Chat	April 22	April 19, 1931
Hooded Warbler	April 12	April 12, 1931
Wilson Warbler	.....	April 26, 1931
Canadian Warbler	April 30	April 27, 1931
Baltimore Oriole	April 8	April 5, 1930
American Redstart	April 16	April 10, 1930
Orchard Oriole	April 9	April 5, 1929
Scarlet Tanager	April 16	April 10, 1929
Summer Tanager	April 10	April 5, 1929
Eastern Blue Grosbeak	April 17	April 11, 1929
Indigo Bunting	April 18	April 13, 1930
Painted Bunting	April 29	April 20, 1931
Dickcissel	May 7	April 28, 1931
White-crowned Sparrow	April 12	March 16, 1930

Spring Migration (Departure)

NAME OF BIRD	Average date of spring departure	Latest date of spring departure
Marsh Hawk	February 25	March 10, 1929
Wilson Snipe	March 19	March 23, 1931
Eastern Phoebe	March 29	April 11, 1931
Eastern Golden-crowned Kinglet	March 22	March 27, 1931
Eastern Ruby-crowned Kinglet	April 16	April 26, 1931
American Pipit	February 15	February 16, 1930
Slate-colored Junco	May 5	May 15, 1930
White-crowned Sparrow	May 4	May 12, 1931
White-throated Sparrow	April 27	May 12, 1931
Eastern Fox Sparrow	March 6	March 9, 1930

Fall Migration (Arrival)

NAME OF BIRD	Average date of fall arrival	Earliest date of fall arrival
Marsh Hawk		November 2, 1930
Eastern Phoebe		November 2, 1930
Eastern Golden-crowned Kinglet		November 2, 1930
Eastern Ruby-crowned Kinglet		November 2, 1930
American Pipit		December 20, 1930
Myrtle Warbler		September 26, 1931
Slate-colored Junco		October 16, 1930
White-throated Sparrow		October 16, 1930
Eastern Fox Sparrow		November 16, 1930

Fall Migration (Departure)

NAME OF BIRD	Average date of fall departure	Latest date of fall departure
American Egret	.....	October 12, 1930
Little Blue Heron	October 22	October 29, 1931
Eastern Green Heron	September 13	September 21, 1929
Yellow-billed Cuckoo	September 25	September 28, 1930
Florida Nighthawk	October 7	October 12, 1931
Chimney Swift	October 18	October 25, 1931
Ruby-throated Hummingbird	October 2	November 12, 1931
Eastern Kingbird	September 10	September 15, 1929
Northern Crested Flycatcher	September 17	September 28, 1930

Fall Migration (Departure)—Continued

NAME OF BIRD	Average date of fall departure	Latest date of fall departure
Acadian Flycatcher	September 10	September 13, 1931
Eastern Wood Pewee	October 4	October 18, 1931
Rough-winged Swallow	.....	August 7, 1931
Purple Martin	.....	August 17, 1931
Catbird	.....	October 12, 1930
Wood Thrush	October 6	October 25, 1931
Blue-gray Gnatcatcher	.....	November 16, 1930
White-eyed Vireo	October 6	October 15, 1931
Yellow-throated Vireo	September 13	September 14, 1930
Red-eyed Vireo	September 12	September 15, 1929
Eastern Warbling Vireo	August 23	September 7, 1930
Prothonotary Warbler	September 26	October 8, 1931
Blue-winged Warbler	September 25	October 7, 1931
Tennessee Warbler	.....	September 14, 1930
Western Parula Warbler	October 12	October 12, 1931
Eastern Yellow Warbler	.....	August 11, 1931
Magnolia Warbler	.....	October 8, 1931
Myrtle Warbler	October 22	October 26, 1930
Black-throated Green Warbler	.....	October 4, 1931
Blackburnian Warbler	September 17	September 27, 1931
Sycamore Warbler	.....	October 16, 1931
Bay-breasted Warbler	.....	September 27, 1931
Northern Prairie Warbler	.....	September 21, 1930
Kentucky Warbler	.....	September 13, 1931
Maryland Yellowthroat	September 4	September 21, 1930
Yellow-breasted Chat	September 18	September 29, 1931
Hooded Warbler	September 16	September 26, 1931
Wilson Warbler	October 2	October 3, 1931
Canadian Warbler	.....	September 7, 1930
American Redstart	.....	October 17, 1931
Baltimore Oriole	September 26	October 8, 1931
Orchard Oriole	.....	August 21, 1931
Scarlet Tanager	.....	September 16, 1931
Summer Tanager	October 13	October 29, 1931
Indigo Bunting	.....	September 13, 1931

THE PROTECTION OF BIRDS

Almost every one to whom outdoor life appeals is interested in birds, and very many persons are fond of hunting those available as game. For many years federal, state, and private organizations have been investigating the birds in our country in order to ascertain their numbers, movements, and distribution with a view to more effective co-operation in their conservation.

Waterfowl shooting is one of the most fascinating outdoor sports. The myriads of birds that fifty years ago thronged our lakes, streams, and coastal waters gave promise of the pleasures of the chase and of a food supply for unlimited future years. Various causes, however, have changed this outlook, and the rapid decrease in the numbers of waterfowl in the United States during the last four decades has drawn the attention of sportsmen and others to the necessity of careful conservation if the supply is to continue. Not only is wild fowl shooting an interesting sport, but it is one of the most valuable kinds of recreation, particularly for men who are confined to business in an office or to other indoor labor, for not only does it take the mind from the worries of everyday life, but the incident out-of-door exercise is one of the best antidotes for overworked physical nature. Recreation, particularly outdoor recreation, has in recent years come to be regarded as of the utmost importance for the best and most efficient use of our powers.

All the wild life of the out-doors is of great value from an educational standpoint, because few, if any, things in life are more conducive to the proper training of the powers of observation than natural history. If for nothing else the wild things of the out-doors would be well worth preserving for this alone. Added to this is the great aesthetic value that the more beautiful and otherwise attractive of these have for man.

In addition to the great value of wild life from the aesthetic, educational, and recreational standpoints, there are

many practical considerations of importance. In fact, the value of the products of out-door life is often greater than that of crops that could be produced from the same areas under cultivation. Unfortunately, the wild life resources of our country are often considered merely as a mine to be exhausted rather than a crop to be nurtured and harvested. By careful cultivation, however, all these can be made to furnish a continuous supply, the volume of which can even be increased by proper measures. Our wild fowl alone, for instance, produce each year, at a conservative estimate, at least many million dollars worth of food, besides all the revenue that accrues to those who have to do with furnishing the means of many kinds for carrying on the sport of hunting. The latter amount is probably many times greater than the actual food value of the birds obtained.

The great reduction in the numbers of wild fowl in the last 100 years has more and more drawn attention to the need for careful protection in all parts of our country. Such conditions have developed that at the present time those who have studied the subject have become convinced of two things—that the wild life must have further protection and that provision must be made for its perpetuation if we are to continue in its possession; secondly, that this consideration must be given to it soon. If we wait until the last bird of any species is killed, it is perfectly evident that the species can never be restored. Much has already been done both by the States and by the Federal Government to remedy existing conditions, but much remains to be done. The abolition of spring shooting and of market hunting probably have done more than any other two things to bring about a more hopeful outlook, but local conditions and the increasing army of hunters make it necessary at least locally that these great advances in wild life protection be supplemented by other means.

Louisiana is one of the most important States of the Union from the standpoint of waterfowl protection. Its great area, its numerous lakes and bayous, and the diversified conditions that exist within its boundaries make it one of the most attractive wintering, resting, and feeding

grounds for wild fowl in our country. Places like the bottomlands of the Mississippi River, Catahoula Lake, Lake Caddo, and the myriad of streams and ponds, particularly in the southern part of the State, are a ready explanation for the rich aquatic bird life. Many changes, however, have taken place within its boundaries within the past fifty years, and with much of the rest of our country it has suffered a great diminution in the numbers of its waterfowl, although relatively not so much as have some other States. Several ducks, like the Canvasback, the Redhead, the Gadwall, and the Ruddy duck; a number of shorebirds such as the Golden Plover, the Upland Plover, and the Marbled Godwit; together with those wonderful birds the Sandhill Crane and Whooping Crane, are greatly reduced in numbers.

The causes of this decrease are not far to seek. They are chiefly the cultivation of the country, the drainage of various water areas, drought, disease, and excessive hunting. It is, of course, inevitable that much disturbance of wild life should take place in areas that are suitable for farming, and in many cases the cultivation and occupation of the areas by man is of much more importance than the preservation of the wild fowl inhabiting such regions. It is possible, however, so to regulate the operations of drainage that they will cause the minimum of damage to the birds. Furthermore, hunting can be so controlled that it will take only the surplus supply each year.

Owing to the restriction, some of which is inevitable, as already suggested, of the breeding and feeding grounds of our wild fowl that has already taken place, much of our game, particularly so far as the great numbers of certain species are concerned, is lost permanently, but by proper action now we can save practically all that remains to us from past years, and pass it down to future generations unimpaired.

This will require active cooperation on the part of all who are interested not only in the aesthetic, educational, and recreational values of our birds, but of those as well who are interested from a monetary standpoint. Fortunately-

ly the song birds, such other desirable birds as the herons, together with the rest of the non-game species, including the valuable insect eaters, are now not in serious danger, so that the most immediate necessity for protective efforts concerns the game birds.

Probably the most valuable means of arousing public sentiment for the protection of our birds is the education of all the people to their value and importance. The absolute necessity of preserving the breeding grounds of our waterfowl should be impressed on all Americans. To do this all the unwise drainage operations of the past may be used as a warning for the future. Not only are the breeding and wintering grounds necessary for the protection of our wild fowl, but there must be attractive areas on which, during migration, the birds may rest and feed. The wintering grounds are of much concern in Louisiana because a large quota of the waterfowl actually winter within its boundaries, and sentiment started elsewhere as well as here will travel far and aid in preserving what are scarcely less important than the breeding grounds, the suitable wintering areas for ducks, geese, and other water birds.

Besides the general preservation of suitable areas, probably the most important, and in fact, the almost indispensable means of protecting our water and other game birds, is the establishment of as many sanctuaries as possible, both public and private, in which birds at all times can find refuge, or in which, at most, hunting would be permitted only under very careful restrictions. Such refuges can be established by individuals alone or in cooperation with the States; by States like Louisiana on state-owned lands; on areas like the national forests; or by the national government, on other areas, as has already been done along the Mississippi River and elsewhere. The Upper Mississippi Wild Life Refuge in the central northern States, and the Bear River Refuge in Utah are good examples of useful federal sanctuaries.

Louisiana is particularly well provided with large bird sanctuaries. Under State control there are the State Wild Life

Refuge in Vermilion Parish, the Rockefeller Wild Life Refuge in Cameron Parish, and the Russell Sage Wild Life Refuge, these being valuable for the protection particularly of ducks and geese; the Singer Wild Life Preserve in Madison Parish; the Theo Terzia Game Preserve, the Ayers-Fisher Preserve, and the Northwest Game Preserve, all of which are valuable for the conservation of upland birds and other game. There are also the Rainey Wild Life Sanctuary in Vermilion Parish, administered by the National Association of Audubon Societies, and the Delta, Sabine, and Lacassine Migratory Bird Refuges, administered by the Biological Survey. In addition the State parks, although small, are natural refuges for wild life; and the Pass a Loutre Hunting Preserve in the Mississippi River Delta is, of course, a refuge for all kinds of birds and other game at times other than the open hunting season.

In addition to education and the protection of the breeding and feeding grounds of birds, intelligent restrictions of the hunting of waterfowl are of course vitally necessary. Notwithstanding all that has been accomplished in connection with the banishing of spring shooting and market hunting it may still be necessary further to restrict privileges of this sort, not only for the good of the birds but for the sake of preserving the supply for ourselves and for those who will fall heir to our advantages.

All true sportsmen should put forth their efforts at all times to educate the public to proper enforcement of existing laws and to the general upbuilding of a spirit of true sportsmanship in all those who love outdoor life. Only in this way shall we be able to accomplish the greatest good not only for the wild life of our country but for ourselves.

THE BIRDS OF LOUISIANA

Order GAVIIFORMES

Family GAVIIDAE

COMMON LOON

Gavia immer immer (Brünnich)

The Loon is one of our best known large birds, not only because it is conspicuous and widely distributed in North America, but perhaps by reputation, because of the well known expression 'crazy as a loon'. This remark has reference, of course, to the wild, weird cry of this bird which is occasionally heard, although its ordinary note of few syllables is a very melodious, though far-carrying call.

About the size of a goose, it is readily distinguished by its black head and neck, white under parts, and black, white-spotted, upper surface, although in the winter it loses the black of its head and neck, and the conspicuous white spots of the upper surface, and assumes above the dull grayish brown of the young and the white of the lower parts.

While in the summer it is an inhabitant of the ponds and streams of the interior, it frequents during migration and in the winter the coastal bays and inlets. where, at times, it appears even in flocks. It is very awkward on land, but it is one of the most remarkable divers among birds, and from this ability the bird has acquired as one of its names, 'great northern diver', which really is very appropriate. While it is rather slow and deliberate in rising from the water, once it is under way it has a swift and strong flight. In its winter home it is fond of swimming about, alternating its appearance on the surface by repeated dives. It is extremely wary, and when disturbed rises heavily, pattering along the surface of the water with its feet, as though running on the land, and flying far enough to feel itself out of danger before dropping into the water again. When undisturbed it swims readily about

or rises partly out of the water, flaps its wings, as though to exercise them, and then falls back into a swimming position again.

The food of this bird consists to a considerable extent of fishes, which it catches by diving and pursuit under the water. It also varies its diet with crustaceans, insects, lizards, leeches, and frogs, and occasionally the roots of fresh water plants.

The nest of this diver is rather a crude structure, being often a mere heap of rushes and reeds, and at times scarcely recognizable as a nest. It is placed usually in the water, near the margin of a pond or shallow lake, and often near the edge of the reeds. It is sometimes only a few inches above the surface of the water. Occasionally on islands the bird builds its nest on more or less dry ground, but usually not very far from water. When the nest is on dry land the birds ordinarily wear a path to the water, which they use in leaving the nest instead of attempting to fly before reaching the water. The eggs are usually two, of a dark olive green or olive brown color, with a relatively few darker brown spots.

The Common Loon is a winter visitor, apparently rare, in northern Louisiana.

There is but a single record, that of a specimen taken by George H. Lowery, Jr., on a mill pond at Dubach in Lincoln Parish, May 18, 1931.¹ The measurements of this bird, kindly made for the writer by Mr. Lowery, indicate that it is the northern race. Several other individuals were seen in the same locality during the spring of 1931, and they may have been of the same subspecies.

LESSER LOON

Gavia immer elasson Bishop

The Lesser Loon, which differs from the Common Loon only in smaller size, is a fairly common winter resident, from September to June 5, chiefly from October to April, throughout most of Louisiana, although more frequent on the waters of the Gulf of Mexico, less so on the lakes and

¹Bull. La. Poly. Inst., Vol. XXIX, No. 4, November, 1931, p. 12.

streams of the interior; and reported from Mississippi Sound, Breton Island, Belair, Deep Lake, Lake Felicity, Berwick Bay, and Vermilion Bay, north to Monroe.

The writer has determined specimens in the museum of Tulane University from Berwick Bay, April 5, 1876; and from Belair in Plaquemines Parish, February 1, 1894; also in the museum of the Louisiana Department of Conservation at New Orleans from Morgan City, December, 1931; one taken by Ambrose Daigre at Grand Isle, April 19, 1936; one from the same place February 4, 1936; one there by George H. Lowery, Jr., on April 18, 1936; and another from Louisiana without further data. This is apparently the prevailing race of the Loon in Louisiana.

George H. Lowery, Jr., observed it at Monroe, on December 26, 1930, and October 18, 1931. A. M. Bailey found it fairly common on Mississippi Sound in March, 1918; and the writer noted it on Vermilion Bay, January 29, 1932; on Lake Felicity and Deep Lake, December 23, 1932, a single bird in each instance. Two individuals were seen by him on an inlet along the shore of Breton Island on June 5, 1933.

Order COLYMBIFORMES

Family COLYMBIDAE

HOLBOELL GREBE

Colymbus grisegena holböllii (Reinhardt)

The Holboell Grebe is of only casual or accidental occurrence in winter in Louisiana.

The only record for the State is a single bird shot by Gilbert Sanson, on Catahoula Lake, in east central Louisiana, on December 2, 1937.

HORNED GREBE

Colymbus auritus Linnaeus

The Horned Grebe is a winter resident, from the middle of November to the end of March, in southern Louisiana, particularly the coastal marshes. The northern limit of its winter distribution in this State is not determinable from

the records at hand, but it ranges at least from Vermilion Bay and the mouth of the Mississippi River, north to False River, New Orleans, and Lake Catherine. It is also a transient in August and April in the interior of the State.

Specimens in the museum of Tulane University were taken at Lake Catherine in August, 1885; and one in the museum of the Louisiana Department of Conservation at New Orleans was obtained at New Orleans in April, 1933. A. M. Bailey noted in Vermilion Bay a few individuals about the middle of November, 1917, one of which he collected; and L. E. Hicks reported one seen at New Iberia, December 26, 1931. George H. Lowery, Jr., observed a single individual on False River, in northern West Baton Rouge Parish, on December 13, 1934. This species, while it occurs in Louisiana usually as single individuals, is occasionally seen here in small companies.

PIED-BILLED GREBE

Podilymbus podiceps podiceps (Linnaeus)

The Pied-billed Grebe, which is the common bird of its family in Louisiana, is one of those frequently called 'hell diver', perhaps because of its expertness in diving when alarmed. It is also commonly called 'dabchick' or 'water-witch'. It is a rather inconspicuous, brown bird, with a rather short, thick, bill which has a blackish band across the middle; and there is a conspicuous black patch on the throat. This is absent, however, in young birds, and in the winter plumage of the adult.

It is found on almost all bodies of water, but it prefers the sheltered ponds and streams during the summer season. While it is often seen in the open it likes best the reedy shores and shallow vegetation-covered parts of the water. While it flies well, it prefers to sit on the water, where it is usually successful in eluding its enemies by either diving or hiding among the reeds. It is not usually seen in flocks, but apparently is fond of its own society. Although awkward on land it is a marvelous diver and can disappear beneath the surface at the flash of a gun quickly enough

to avoid the shot. The bird is shy, particularly during the breeding season, and if suspicious of an intruder will quickly vanish. Its note is a rather loud, somewhat harsh repetition of a syllable that sounds like 'cow'.

It feeds on such animal matter as fishes, frogs, worms, water insects, and mollusks, and also the softer parts of aquatic plants, as well as their seeds.

The nest of this grebe is a bulky heap of rushes, reeds, and other water plants, matted together and usually floating on the water, though anchored to the reeds or rushes, and, unless the water is too deep, it is more or less built up from the bottom. A hollow in the center contains the usually five to seven eggs, which are dull bluish or olivaceous white, though they soon become stained by the wet vegetation with which they come in contact. The bird is very shy about her nest, and, at the slightest alarm, will cover the eggs, slip into the water, and be out of sight in the adjacent vegetation before any intruder can reach the nest. When the eggs are hatched the young soon leave the nest and swim about, following their parents. Occasionally they are carried on the back of the female, where they sometimes will even cling to the mother's feathers while she dives and returns to the surface.

The Pied-billed Grebe is a fairly common permanent resident, but more numerous in winter from early October to April; and, though of local distribution, occurs practically throughout Louisiana. It has been reported south to southwestern Cameron Parish, Vinton, Edgerly, Chenier au Tigre, Rainey Wild Life Sanctuary, Morgan City, and Main Pass in the Mississippi River Delta; east to Carlisle, New Orleans, Bayou St. John, and Lake Catherine; and north to Lake Providence, Oak Grove in West Carroll Parish, Monroe, Bienville, and De Soto Parish. It frequents the ponds, lakes, and streams of the interior, together with the lagoons and bays of the coast. It breeds in May.

Specimens in the museum of Tulane University were collected at Vinton, March 2, 1892; Edgerly, March 10, 1892; New Orleans, June 25, 1870, and October 23, 1890; Bayou St. John near New Orleans, November 12, 1888; and Lake

Catherine, December 2, 1900. It was taken also by G. A. Hillery at Carlisle, November 2, 1919; and by Arthur Svihla at Morgan City, October 20, 1925. J. S. Campbell found nests near Bienville in May, 1932; and noted birds at Lucky and Liberty Hill, Bienville Parish, during the summer of 1932. A. M. Bailey reported it as common in Main Pass in the Mississippi River Delta during the latter part of October, 1928; and he noted a single bird at Chenier au Tigre, December 10, 1925. The writer saw one southwest of the club house of the Orange-Cameron Land Company in southwestern Cameron Parish, January 25, 1928.

Order PROCELLARIIFORMES

Family HYDROBATIDAE

WILSON PETREL

Oceanites oceanicus (Kuhl)

The Wilson Petrel is a summer visitor on the Gulf of Mexico off the coast of Louisiana, observed only in June, between the mouth of the Mississippi River and the mouth of Bayou La Fourche.

While apparently not uncommon, the only records available are: one seen, June 25, 1915, on the Gulf of Mexico off Cheniere Caminada, seven miles west of Grand Isle, by Herbert K. Job and Stanley C. Arthur;* two observed by the writer off the mouth of Bayou La Fourche, June 9, 1933; and 13 seen, June 8, 1933, on the Gulf of Mexico a short distance off the coast between the mouth of the Mississippi River and Shell Island in Plaquemines Parish.

Order PELECANIFORMES

Family PHAETHONTIDAE

YELLOW-BILLED TROPICBIRD

Phaëthon lepturus catesbyi Brandt

The Yellow-billed Tropicbird is reported as an occasional summer visitor in Louisiana, for which, however, there is apparently no definite record available.

*Bull. La. Dept. Cons., No. 20, December 1931. p. 41.

The statement by Stanley C. Arthur,* that "they are only seen in this State during midsummer and during the past three or four years their observance has been almost common", is the only evidence that we have of its occurrence in the State.

Family PELECANIDAE

WHITE PELICAN

Pelecanus erythrorhynchos Gmelin

The White Pelican, owing to its large size, white color, its long, conspicuous, yellow bill, with the immense pendant pouch underneath, is a very conspicuous object wherever it happens to be. It is so well known that it is readily recognized by almost everyone.

Although it breeds in the interior of North America, usually on islands in lakes, it is found in Louisiana almost exclusively along the coast, where it frequents the lagoons and other bodies of water. At times this bird gathers into large flocks. The birds are often seen resting on the water, or sitting along the shore where, at a little distance, they very much resemble a platoon of white soldiers.

While awkward on land this bird is perfectly at home on the water, and in the air flies easily, notwithstanding the fact that it is one of the heaviest of flying birds. A flock of White Pelicans on the wing is a really splendid sight, and the bird is one that should be protected for its spectacular interest, if for no other reason.

It is a rather silent bird and very seldom gives utterance to its rather low grunt or croak.

It feeds largely on various kinds of fishes, which it obtains by wading or swimming in the shallow water, but not by diving, as does the Brown Pelican.

The nest is placed usually on small islands, sometimes in company with other water birds, such as cormorants, gulls, and terns, but often in separate colonies. It is placed on the ground, and is usually a mass of weed-stalks, the

*Bull. La. Dept. Cons., No. 5. January, 1918. p. 17.

stems of other water plants, pieces of mud and stone, or other rubbish. Sometimes the nests are among the water plants, which are trodden down to furnish a platform for the eggs. The normally two eggs are chalky white, usually more or less stained. A month is required to hatch the eggs, in which duty both the parents cooperate. The young, when hatched, are naked and unattractive, and they remain in the nest at least for two or three weeks. The parents feed them largely on regurgitated food, and the process is an interesting one that would seem hard work for both parent and young, but which doubtless is not particularly annoying to either. The young reaches its bill into the mouth of the adult, and eats as much as he is allowed by the parent. This regurgitated food at first is fairly well digested by the parent, but later on the young are fed on undigested food.

The White Pelican is a permanent resident in southern Louisiana, chiefly in the coastal waters, common in winter, numerous in summer; reported from Chandeleur Island and the Mississippi River Delta, west to Timbalier Island, Chenier au Tigre, the Rainey Wild Life Sanctuary, and southwestern Cameron Parish; but only a transient in the rest of the State, north to the Tensas River, Monroe, and Bienville. It occurs at times in flocks of several hundred. There is no definite breeding record for Louisiana, although it has been several times reported as nesting.

W. M. Sprinkle noted this species in considerable numbers at Chandeleur Island, February 4, 1914; at Mitchell Island and Martin Island, October 28, 1912; at Errol Island, March 6, 1913; and Battledore Island, January 24, 1914. A specimen was taken at Carlisle by G. A. Hillery, January 11, 1920; and there are three specimens in the museum of the University of Michigan collected at Grand Isle, April 5, 1925. The writer met with 29 of these birds near the Delta Duck Club on Octave Pass in the Mississippi River Delta, January 22, 1932; and observed a few on Main Pass, December 19, 1932; on Gasper Pass, December 19, 1932; Willow Pass, December 20, 1932; Dennis Pass and Johnson Pass, December 17, 1932; Cognovich Pass and Dead Woman Pass,



PIED-BILLED GREBE (*Podilymbus podiceps podiceps*) ON NEST.
Hinsdale, Ill., May 10, 1928.
(Photograph by A. M. Bailey.)



EASTERN BROWN PELICAN FEEDING YOUNG.
(*Pelecanus occidentalis carolinensis*).

Mud Lumps, Mississippi River Delta, La., June 8, 1930.
(Photograph by A. M. Bailey.)



(Courtesy of the National Association of Audubon Societies.)

THE WATER TURKEY OR ANHINGA

Anhinga anhinga (Linnaeus)

Our only member of a strange family, the Darters, the Anhinga is widely distributed throughout Louisiana. Its slender neck, carried straight before it in flight, and its broad tail, spread fan-shaped, serve readily to distinguish the Water Turkey from the Cormorants, which are similar in size. Snake Bird is another popular name for this curious species.



ADULT MALE ANHINGA (*Anhinga anhinga*) AT NEST.
Avery Island, La., May 15, 1930.
(Photograph by A. M. Bailey and F. R. Dickinson.)



ANHINGA (*Anhinga anhinga*) FEEDING YOUNG.
Avery Island, La., May 15, 1930.
(Photograph by A. M. Bailey and F. R. Dickinson.)

December 18, 1932; all in the Mississippi River Delta. He noticed it along the Mississippi River between Pointe a la Hache and Pilot Town on January 21, 1932. On Lake Barre he discovered 100 individuals on December 23, 1932; and a few on Little Lake in Terrebonne Parish on the same day. A single bird was noted on Terrebonne Bayou, December 22, 1932; at Avery Island, December 28, 1932; and four at Avoca Island, January 28, 1932. At Grand Chenier he observed the species on December 31, 1932; and at Mud Lake in southwestern Cameron Parish, January 26, 1928. It is a fairly common transient at Bienville during spring and autumn; and George H. Lowery, Jr., recorded the appearance of a flock of 300 at Monroe, September 28, 1930.

There is a number of summer records. The writer found a single individual on the Mud Lumps at the mouth of Pass a Loutre, Mississippi River Delta, June 7, 1933, and another individual farther up this pass on the same day. John Dymond reported seeing a flock of 79 on July 11, 1931, on the Gulf of Mexico near the mouth of Grand Bayou in Plaquemines Parish. The writer saw two birds on Belle Pass Island east of Timbalier Island, June 9, 1933; and a flock of 150 on Isle Derniere, June 22, 1933.

EASTERN BROWN PELICAN

Pelecanus occidentalis carolinensis Gmelin⁴

The Eastern Brown Pelican is of particular interest to residents of Louisiana, since it is not only the State bird, but is portrayed on the Great Seal of the State. In shape and size it is much like the White Pelican, but is mostly dull brown in color, whence it derives its name. It is a more maritime bird than the White Pelican, and is seldom found away from the coastal waters.

Like the White Pelican it is rather awkward on land, but on the water is perfectly at home, and its flight is remarkable owing to the power of its wings and their ample expanse. It frequently soars for considerable distances, often high in the air. This bird is one of the inter-

⁴*Pelecanus occidentalis occidentalis* of the 1931 A. O. U. Check-List.

esting sights all along the coast of Louisiana, and should, by all means, be protected, particularly in view of the fact that it seems to have been decreasing in numbers during recent years. Sometimes it assembles into flocks of considerable size, and a great flock of these birds on the wing is a sight worth watching. Although the young make noise enough when they clamour for food, the adults are almost silent.

Its food consists of fishes, mostly those not suited for human consumption, so that the fishermen have little legitimate complaint against this bird. It obtains its food by diving, sometimes from a considerable height. Its plunge takes it underneath the water, which is done by plunging with the wind. Underneath the surface it makes a complete turn and rises to the surface headed against the wind.

This pelican breeds usually in colonies, often of large size. The nest is placed either in bushes, low trees, or on the ground, but is almost always a bulky structure of sticks, straws, grasses, leaves, and similar materials, with a more or less well developed hollow for the eggs. These are usually three in number, and are, like those of the White Pelican, dull white, mostly more or less stained by contact with the nest materials. The period of incubation is about one month, and the young are hatched unfeathered. Subsequently they are fed by the regurgitation of partly digested food by the parents until they are able to fly. The process of feeding is very much like that by the White Pelican, and is always an interesting performance for the observer, as well as for the participants.

The Eastern Brown Pelican is an abundant permanent resident along the Gulf Coast and the coastal waters of Louisiana, from Chandeleur Island and Isle au Pitre, to the Mississippi River Delta, Grand Isle, and Leedyburg in southwestern Cameron Parish; and of accidental or casual occurrence in the remainder of the State north to Caddo Lake, where it was seen on September 11, 1915, by H. H. Kopman; and to Lake Bisteneau, where noted in 1932 and 1933 by J. S. Campbell. It breeds on the islands and occasionally the

mainland along the Gulf Coast from the Chandeleur Islands to the vicinity of Isle Derniere. It nests from February to July; and there are records of eggs from March 28 to June 22, and of young unable to fly as late as July 10. While the Brown Pelican breeds on various islands along the coast of the State, it shifts its breeding places often from year to year; likewise the nesting in different colonies sometimes varies much in time of year.

The writer saw 1350 Eastern Brown Pelicans on Isle Derniere, June 22, 1933; also 334 on East Timbalier Island, 227 on Timbalier Island, and 191 on Grand Isle, June 9, 1933; as well as small numbers on Lake Pelto, June 22, 1933; at Shell Island in Plaquemines Parish, on Ronquille Bay, and along Southwest Pass near the mouth of the Mississippi River, June 8, 1933; and on Main Pass in the Mississippi River Delta, June 7, 1933. The species was common on Isle au Pitre, June 3, 1933; Chandeleur Island and Mitchell Island, June 4, 1933; Errol Island and Curlew Island, June 5, 1933; and Breton Island, June 6, 1933. On Grand Gosier Island, he observed about 100, June 6, 1933, but there was no indication that the birds were breeding on this island. This is of particular interest in view of the fact that A. M. Bailey found 1200 nests on this island in June, 1918.

The largest and most important colonies of nests of this species on the coast of the State during 1933, so far as the writer is aware, are the three mentioned below. On the North Islands in the Chandeleur Island group, the writer found on June 4, 1933, a colony of 2300 nests which contained from one to three, very rarely four eggs each, and a very few young just hatched. He detected about 2200 adult birds as well as about 100 young in the nests. On the Mud Lumps at the mouth of Pass a Loutre in the Mississippi River Delta he saw on June 7, 1933, 4550 birds in several breeding colonies on the separate mud lumps, and on one occasion a small group on the adjacent mainland. About one-half of these were young, ranging from birds just hatched to those nearly grown, though the great majority were able to leave the nests. On Belle Pass Island, east of Timbalier

Island, which he visited on June 9, 1933, he discovered a colony of about 1000 nests and 1000 young in the nests, but no eggs. In addition to the young in the nests there were about 2400 adults seen at this colony. There are eggs in the museum of Tulane University collected on Marsh Island, March 28, 1894.

While the Eastern Brown Pelican does not seem to be present in such numbers during the winter as in summer, it is nevertheless of general distribution along the Gulf Coast and is frequently observed. In the Mississippi River Delta the writer noted it at Main Pass, December 19, 1932; at Codro Pass, December 18, 1932; at Willow Pass, December 20, 1932; Dennis Pass, December 17, 1932; and at the Delta Duck Club on Octave Pass, January 19, 1928. He noticed a single individual near Buras on the Mississippi River, January 23, 1932; and one near Myrtle Grove, January 24, 1932. This pelican was met with by him also on the Rainey Wild Life Sanctuary, January 23, 1928; on Lake Timbalier, Lake Barre, Lake Felicity, and Deep Lake, December 23, 1932; and on Calcasieu Lake, December 30, 1932. At Leedyburg in southwestern Cameron Parish, Arthur Svihla noted it on January 3, 1926.

The Brown Pelican of the eastern United States is sufficiently different from the bird of the West Indies, by reason of its larger size, to be subspecifically separable, as indicated by Peters.⁵

Family SULIDAE

ATLANTIC BLUE-FACED BOOBY

Sula dactylatra dactylatra Lesson

The Atlantic Blue-faced Booby is of only accidental occurrence on the Gulf Coast of southern Louisiana.

One was found dead by E. S. Hopkins, July 28, 1929, on Grand Gosier Island in the Chandeleur Group.⁶

⁵Check-List of Birds of the World, Vol. I, October 6, 1931, p. 81.

⁶Bailey and Wright, Wilson Bulletin, Vol. XLIII, No. 2, June, 1931, p. 126, recorded as from "Coral Island".

WHITE-BELLIED BOOBY

Sula leucogastra leucogastra (Boddaert)⁷

The White-bellied Booby is of casual occurrence in the Gulf Coast region of southern Louisiana during spring, autumn, and winter.

The only definite records seem to be two males which George E. Beyer collected in September, 1884, on the Mississippi River, about 50 miles below New Orleans;⁸ three others observed at Red Pass near the mouth of the Mississippi River, January 15, 1901;⁹ and a specimen obtained at Grand Isle, April, 1929, by E. S. Hopkins.¹⁰

GANNET

Moris bassana (Linnaeus)

The Gannet is a casual winter visitor along the Gulf Coast of Louisiana.

It is stated by George E. Beyer¹¹ to have been taken several times at The Rigolets, but the only definite record seems to be a male shot there on December 9, 1886.

Family PHALACROCORACIDAE

DOUBLE-CRESTED CORMORANT

Phalacrocorax auritus auritus (Lesson)

This rather ungainly bird is readily distinguished from most other species by its goose-like size, long slender neck, small head, slightly hooked bill, and general blackish or brownish coloration. On the wing it flies much like a goose, and is frequently mistaken for that bird. This similarity undoubtedly accounts for its name 'nigger goose', or 'Irish goose'.

It is found about all the larger watercourses and bodies of water, both in the interior and along the coasts of the United States, and sometimes appears in immense numbers,

⁷*Sula leucogaster leucogaster* of the 1981 A. O. U. Check-List.

⁸Proc. La. Soc. Naturalists, for 1897-1899 (1900), p. 87.

⁹Beyer, Allison, and Kopman, The Auk, Vol. XXIV, No. 3, July, 1907, p. 316.

¹⁰Bailey and Wright, Wilson Bulletin, Vol. XLIII, No. 2, June, 1931, p. 126.

¹¹Proc. La. Soc. Naturalists, for 1897-1899 (1900), p. 87.

migrating frequently in large flocks. It is an almost entirely silent bird. Its flight, though heavy, is well-sustained, but not rapid. It is rather awkward on land, and has difficulty sometimes in rising from the water.

This bird, however, is an expert diver, and obtains its food of various kinds of fishes in this way, pursuing its prey under water, where it makes considerable speed. The undigested remains of its meals are ejected from the mouth in the form of pellets.

The Double-crested Cormorant breeds in colonies, often of considerable size, either on the ground or rocks, or in trees, like herons. The nest is a bulky structure composed of various kinds of sticks, grasses, weeds, bark, and aquatic or other vegetation. Sometimes it is decorated with pieces of evergreen, or other things such as bark, feathers, or even dead crustaceans. There are commonly 3 or 4 eggs, rather elongate in shape, of a bluish white or very pale blue color, this ground color often more or less concealed by a whitish lime-like coating. The young are blackish when hatched and are without feathers. They remain for a considerable time in the nest, where they are fed regurgitated food by the parents.

The Double-crested Cormorant is principally a winter resident, from October 17 to April 19, abundant in southern Louisiana, particularly the Gulf Coast region and the larger bodies of water, less numerous in winter in northern Louisiana, though abundant in migration along the streams and lakes, at times gathering into companies of many thousands. It has been reported from Lake Catherine, the Mississippi River Delta, Grand Isle, Lake Timbalier, Isle Derniere, Marsh Island, Chenier au Tigre, and Calcasieu Lake, north to Lake Providence, Oak Grove in West Carroll Parish, Monroe, and Lake Bistineau. It also breeds, chiefly in May and June, but only, so far as known, in the southwestern part of the State, although according to J. S. Campbell it occurs in summer on Lake Bistineau.

The writer has determined specimens of this subspecies from Black Bayou in northwestern Cameron Parish, collect-

ed March 10, 1882; also in the museum of Tulane University, from Lake Catherine, December 16, 1900, February 19, 1884, February 14, 1885, and March 4, 1890; and from Mergentau, April 14, 1894; in the museum of the Louisiana Department of Conservation at New Orleans, from Shell Island near Buras, February, 1933; and Westwego, December, 1931; and in the Chicago Academy of Sciences, from Pilot Town in the Mississippi River Delta, January 31, 1930, J. Leiter. Two birds identified in the Colorado Museum of Natural History are from Elephant Pass, January 26, 1918; and two others from Isle Derniere, were taken on December 7, 1918, by A. M. Bailey. Northern birds banded within the summer range of this subspecies have been captured in Louisiana at Verret Lake, October 25, 1925, and November 4, 1924; Ville Platte in Evangeline Parish, October 17, 1931; and Cocodrie Bayou, November, 1931.

Cormorants of this form were found breeding by A. M. Bailey at Bird Island in Cameron Parish in 1930, and he noted young well grown by June 1, 1930. At that time this cormorant was associated in the same colony with Anhingas and American Egrets. Mr. Bailey recorded also that it was observed here during the breeding seasons of 1916, 1917, and 1918.¹² Birds, probably of this race, were observed by the writer at Calcasieu Lake, December 31, 1932; at Avery Island, December 28, 1932; at Marsh Island, January 30, 1932; Avoca Island, January 28, 1932; and East Cote Blanche Bay, January 29, 1932. On Vermilion Bay, 155 individuals were seen on January 30, 1932; and 300 on Lake Barre, December 22, 1932. This cormorant was noted also on Timbalier Bay, Drum Lake (Lake Tambour), Little Lake, and Lake Felicity in Terrebonne Parish, December 23, 1932. The writer found it on Bayou Des Allemands near Mud Lake, December 24, 1932; on Little Barataria Bayou near Lake Salvador, January 26, 1932; and on Bayou Boeuf, January 27, 1932. Cormorants presumably of this race are common in winter in the delta of the Mississippi River and along the lower part of the river itself. The writer saw about 100 along the Mississippi River near Venice, December 20, 1932;

¹²Wilson Bulletin, Vol. XLIII, No. 2, June, 1931, p. 127.

and others at the Delta Duck Club on Octave Pass, January 22, 1932; on Cognovich Pass, December 18, 1932; and on Pass a Loutre, December 17, 1932.

FLORIDA CORMORANT

Phalacrocorax auritus floridanus (Audubon)

The Florida Cormorant, if it occurs at all, is a permanent resident, probably fairly common, in southeastern Louisiana, west to near Baton Rouge.

No specimens of the Florida Cormorant from Louisiana have been examined, but if the Florida Cormorant is recognizable as distinct, and occurs in the State, the breeding birds from southeastern Louisiana are probably of this form. At present, however, the distribution records of occurrence are difficult to determine, since the birds are, of course, not distinguishable except by examination of specimens. This cormorant is included here, pending further investigations, because of the records already published. Robert Butler informs the writer that it breeds in West Feliciana Parish; and Winston E. Nolan is authority for the statement that there is a colony breeding in Devil's Swamp, 12 miles north of Baton Rouge; but from neither of these localities have specimens been examined.

MEXICAN CORMORANT

Phalacrocorax olivaceus mexicanus (Brandt)

This bird, in general appearance, is almost a duplicate of the Double-crested Cormorant, except for its much smaller size. It is a bird of the coast region, and is rarely found in the interior. Like the other cormorants, it is, in general aspect on the wing, very much like a goose.

The food of this bird is much the same as that of the Double-crested Cormorant, and is, so far as known, largely of fishes.

The Mexican Cormorant breeds in colonies, placing its nest usually in bushes that grow in the water. The nests are substantial platforms, composed largely of sticks, but

have only a shallow depression for the eggs. The eggs are usually four or five, bluish white in color, though often much nest stained, and in shape are like other cormorants' eggs.

The Mexican Cormorant is a fairly common permanent resident in the Gulf Coast region of southwestern Louisiana, from Cameron Parish east to Vermilion Bay.

The writer has seen specimens from Cameron Parish, collected January 19, 1879; two taken by E. G. Wright, at Ged in Calcasieu Parish, June 1, and May 30, 1930; and three in the museum of Tulane University at New Orleans are from Vinton, March 5, 1894, and March 30 and 31, 1893. J. D. Figgins found nests with young on June 20, 1919, on Black Bayou in northwestern Cameron Parish; and A. M. Bailey collected one specimen there on June 19, 1919, he also found it breeding on Bird Island in Cameron Parish in the spring of 1930. He noted it also at Avery Island during the breeding seasons of 1916, 1917, 1918, and 1930, but found no nests. The writer saw about 200 of these birds in Southwest Pass on the Rainey Wild Life Sanctuary in company with Double-crested Cormorants, January 23, 1928.

Family ANHINGIDAE

ANHINGA; WATERTURKEY

Anhinga anhinga (Linnaeus)

The Anhinga, or, as it is variously called, 'snakebird', 'waterturkey', or 'darter', is one of the most grotesque, and, at the same time, interesting, of our larger water birds. It is about the size of a cormorant, the male with mostly black plumage, long slender neck, and long, sharp-pointed bill, which characters render it readily distinguishable.

It is fond of the swamps and marshy lakes, bayous, and similar places. It may be seen often sitting on some tree by the water, or swimming with its body beneath the water, and only its snake-like head and neck appearing above the surface. Although apparently awkward on land, or when on trees, it is remarkable for its powers of flight,

and often soars for a long time, sometimes in circles like a hawk. In straightaway flight it is swift and steady. Sometimes it descends from a great height, with great speed, as if it were falling out of the air. As in the air, it is also expert in swimming and diving, and moves under water often with great speed. Like the cormorants it is active only during the day, and rests at night, usually in trees. It is normally silent, although it sometimes utters a grunting note.

The food of this bird consists principally of fishes of various kinds, which it is well equipped to catch. It eats also shrimps, lizards, snakes, aquatic insects, crawfishes, and even small turtles.

It breeds either by itself, or in rookeries of various kinds of herons, in swamps, and similar places. The nests are usually placed in bushes or low trees, and often over water. Ordinarily there are not large numbers of Anhingas in any one colony. The nest is bulky, not very well constructed, chiefly of sticks and leaves, and lined with small leaves. It usually contains three or four eggs, and often incubation begins before the full number is laid, so that they do not all hatch at one time; and there are, therefore, young of various ages in the nest together. The eggs are bluish white, sometimes more or less covered with a chalky deposit, and commonly nest-stained. The young, like those of the cormorants, are naked when hatched, though not blackish, but yellowish. They remain in the nest until able to fly, and are fed by the parents, as are the cormorants, by regurgitated food.

The Anhinga is a permanent resident in all of Louisiana wherever there are suitable swamps, streams, lagoons, or other bodies of water, fairly common in summer, less numerous in winter, particularly in northern Louisiana; reported north to Lake Providence, Oak Grove in West Carroll Parish, Monroe, Bienville, and Caddo Lake; west to Caddo Lake, Ged, Bird Island in Cameron Parish, and Black Bayou in Cameron Parish; south to Lake Arthur, Lake Charles, lower Vermilion River, Rainey Wild Life Sanctuary, Ver-

million Bay, Avery Island, Avoca Island, Bayou Chene, and the Mississippi River Delta; and east to New Orleans, Madisonville, Bedico River Marsh, Ponchatoula, Bains, Marks-ville, Frogmore, and Newellton. Migrants in northern Louisiana arrive late in April. It breeds in the fresh water swamps, bayous, and lakes, and is often associated with the Little Blue Heron, Snowy Egret, American Egret, and Great Blue Heron. The breeding season is from early April to late July; and there are records of eggs from April 21 to June 2, and of young in the nest as late as July 26.

Specimens of this bird have been examined, in the museum of Tulane University, from Ponchatoula, April 4, 1885; Lake Arthur, May 28, 1896; Bedico Marsh, July 26, 1890; and Bayou La Barre, March 22, 1890. It was taken also in Cameron Parish, May 1 and 8, 1919, and June 20, 1883; and by E. G. Wright at Ged in southwestern Calcasieu Parish on May 31, 1931; and at Avery Island, May 8 and 9, 1930. Eggs were collected on Black Bayou in Cameron Parish by R. E. Rachford, June 2, 1886, May 19, 1886, and April 25, 1885. George H. Lowery, Jr., found it nesting in a colony of Little Blue Herons at Moss Lake, 10 miles north of Lake Charles in June, 1935. J. S. Campbell says that a pair of adults brought two young to a small pond near Bienville on July 4, 1932; and that he saw on Black Lake in Natchitoches Parish 17 young on July 10, 1932. The writer saw it breeding in the E. A. McIlhenny Preserve at Avery Island, June 21, 1933, and there were at that time a number of nests containing young. George E. Beyer in 1891 reported that it bred at New Orleans and Madisonville; and Edward Butler that in 1922 it bred at Bains. The writer noted the species at Caddo Lake, June 18, 1933; at Newellton and Frogmore, June 16, 1933; at Krotz Springs, June 21, 1933; and at Lottie, June 15, 1933.

While not so numerous in winter as in summer, it is nevertheless during the former season rather generally distributed, at least in southern Louisiana. The writer observed it along Black Bayou in Cameron Parish, January 24 and 27, 1928; along the lower Vermilion River, January 23, 1928; at Avery Island, December 28, 1932; at Avoca Island,

January 28, 1932; and in the Mississippi River Delta at the Delta Duck Club on Octave Pass, January 22, 1932; on Dead Woman Pass and Codro Pass, December 18, 1932.

Family FREGATIDAE

MAN-O'-WAR-BIRD; FRIGATEBIRD

Frégata magnificens rothschildi Mathews¹³

The Man-o'-war-bird, or 'Frigatebird', as it is commonly called, is one of the most remarkable birds in Louisiana. Its mostly black plumage, long forked tail, and long wings, make it easily recognizable among the many birds that frequent the southern coasts of the United States.

While the bird probably does not breed in the United States, it spends the summer season along the coasts, where it often assembles into large flocks. Its powers of flight are so great that it always attracts the attention of even the casual observer. It often soars for long periods without motion of the wings, and often at great altitudes. The bird is apparently indifferent to high winds, as its powerful flight enables it easily to offset the gales.

The food of this bird consists chiefly of various kinds of fishes, although other water animals are also eaten. It obtains a portion of its food by picking it up from near the surface of the water, but a considerable part is taken from other species of birds, such as cormorants, boobies, gulls, and terns. It attacks these birds vigorously, and usually succeeds in inducing them to drop their finny prey, which the Frigatebird then seizes for its meal, often before it reaches the water. Thus does it maintain the reputation indicated by its name.

The Man-o'-war-bird breeds in tropical regions, and usually in colonies on islands. The nests are commonly placed in the tops of low bushes, on rocks, on the ground, or elsewhere. The nest is composed chiefly of sticks, vines, straws, grasses and leaves, and lined with finer materials of the same kind. It is a rather bulky platform, in the

¹³*Frégata magnificens* of the 1931 A. O. U. Check-List.

central depression of which the single white egg is laid. The young are without feathers when hatched and are carefully brooded and otherwise taken care of by the parents until they are able to shift for themselves.

The male Frigatebird has a large unfeathered throat pouch which, during the breeding season, is bright red in color, and capable of being inflated to enormous size, giving the bird a very remarkable appearance. Apparently this is a means of attracting the attention and interest of the female. When inflated this pouch looks very much like a small balloon attached to the throat.

The Man-o'-war-Bird is an abundant summer visitor, from March 26 to November, occasionally to December 3, along the Gulf Coast of Louisiana, chiefly from the Chandeleur Islands to Timbalier Island and Isle Derniere, and occasionally inland to New Orleans. There is no definite authentic breeding record for the State, although it has been several times reported to nest. It sometimes gathers into flocks of many thousands.

This species was collected at North Island, Chandeleur Group, June 12, 1930, by E. G. Wright; at Errol Island, June 5 and 6, 1919; on Shell Key near Elephant Pass, June 8, 1919; by C. C. Sperry at Quarantine (Cubit's Gap) in the Mississippi River Delta, August 3, 1925; and Terrebonne Bay, June 14, 1918, by Stanley C. Arthur. The writer found the species to the number of 1100 at North Island in the vicinity of the colony of Brown Pelicans on June 4, 1933, but there was no indication that it was nesting in the vicinity. It was observed by him in small numbers also at Chandeleur Island and Freemason Island, June 4, 1933; Isle au Pitre, June 3, 1933; Curlew and Errol Islands, June 5, 1933; Grand Gosier Island, Breton Island, and Bird Island southwest of Breton Island, June 6, 1933; at the Mud Lumps at the mouth of Pass a Loutre in the Mississippi River Delta, June 7, 1933; at the mouth of Southwest Pass in the Mississippi River Delta, and at Shell Island in Plaquemines Parish, June 8, 1933; Barataria Bay, June 10, 1933; on Timbalier Island, June 9, 1933; and on Isle Derniere, June 22, 1933.

Between Timbalier Island and Grand Isle, June 9, 1933, the Frigatebird was numerous all along the Gulf Coast, flying and circling high, but moving in general toward the west, singly or in small flocks; and along this part of the coast the writer counted 385 birds.

George E. Beyer records the capture of three Frigatebirds on August 19, 1888, in the city of New Orleans.¹⁴

The Frigatebird of the Gulf of Mexico and the West Indies is sufficiently differentiated from the bird of the Galapagos Islands, by reason of its decidedly longer tail, to warrant separation as a distinct subspecies, which has been described by Mathews as *Fregata magnificens rothschildi*.

Order CICONIIFORMES

Family ARDEIDAE

GREAT BLUE HERON

Ardea herodias herodias Linnaeus

The Great Blue Heron is a winter resident, probably fairly common throughout the State.

The only certain records, however, are a single specimen in the museum of the Louisiana Department of Conservation at New Orleans, without further data than that it was taken in the State of Louisiana; another, collected by Wharton Huber at Chenier au Tigre, January 20, 1928; and a bird, banded at Spider Island, Wisconsin, and killed on the Atchafalaya River in St. Landry Parish on October 11, 1929. Doubtless the collecting of Great Blue Herons in the State would reveal the presence of further examples of this race.

WARD HERON

Ardea herodias wardi Ridgway

The Ward Heron is a larger and paler edition of the Great Blue Heron; and lives in the southern United States. Its large size, long bill, and grayish coloration will distinguish it readily from all the other herons of Louis-

¹⁴Proc. La. Soc. Naturalists, for 1897-1899 (1900), p. 87.

iana. It is one of the best known of the large water birds, and is frequently called 'blue crane'.

In flight this heron moves with slow wing-beats, its legs, meanwhile, extended straight behind. While it does not usually gather into very large flocks, a considerable number are often seen together. It frequents all the coastal waters, though it is not so fond of the ocean beaches, preferring the quieter and shallower bays. It is fond of standing motionless on the margin of some shallow lake or lagoon, either resting or watching for an opportunity to obtain a meal. It is usually a wary bird, and though apparently slow in movement is often difficult of approach. It seems usually not to be quarrelsome, although occasionally it does attack other birds, and in general seems to live in harmony with the other herons of the regions it inhabits.

The food of this bird consists of fishes, mammals, birds, snakes, insects, crustaceans, and, in fact, almost any animal that is small enough for it to overcome. Occasionally individual birds make themselves troublesome at fish hatcheries, but a great many of the fishes that this bird consumes are species that are not particularly sought by man, so that except in unusual circumstances, its food habits are not particularly detrimental. Like many other species, however, it does not discriminate between fishes that are interesting to man and those that are not, and whenever the bird raids a fish pond or fish-net, it naturally arouses the ire of the fisherman.

The Ward Heron places its nest in various situations, in a marsh, on an island along the coast, or in wooded swamps, in colonies, often associated with other herons. According to its location the nest is placed in bushes, in the tops of tall trees, or even on the ground. It is usually a bulky structure composed chiefly of sticks, and lined with rootlets, grass, small twigs, and similar materials. Some of the nests are three feet wide and built up to about the same height. The usually four eggs are rather oval in shape, and pale greenish in color. It requires about 28 days for the

eggs to hatch, and the young, being helpless at first, require long care on the part of the parents. They are fed by regurgitation of food from the bill of the parent, particularly in the early part of their existence. This performance is rather curiously carried out by the young bird, which takes hold of the bill of the parent bird crosswise, and then by a pumping motion the food is injected into the mouth of the young bird.

The Ward Heron is a common permanent resident throughout Louisiana, reported north to Holly Ridge, Monroe, Bienville, and Caddo Parish; west to Cross Lake near Shreveport, and Bird Island in northwestern Cameron Parish; south to the southwestern corner of Cameron Parish, Calcasieu Lake, Chenier au Tigre, Marsh Island, Lake Barre, Grand Isle, Barataria Bay, Ronquille Bay, and Cognovich Pass in the Mississippi River Delta; east to Pass a Loutre, Chandeleur Island, Freemason Island, Old Harbor Key, Lake Catherine, Hammond, Simmesport, Archie, Thomastown, and Tendal. It occurs wherever there are suitable areas both along the Gulf Coast and in the interior. It breeds in favorable locations, chiefly from February to June, and usually in colonies, often with Cormorants, Anhingas, American Egrets, and other herons. There is record of eggs on April 1.

The writer has identified specimens of this subspecies of the Great Blue Heron in the museum of the Louisiana Department of Conservation at New Orleans, from Grand Isle, February, 1933, and from Chef Menteur, without date. Eggs were collected on Black Bayou in Cameron Parish by J. H. Rachford on April 1, 1886. W. M. Sprinkle noted this bird breeding on Chandeleur Island on July 3, 1916. H. H. Kopman found it common at Thomastown, July 13 to 28, 1896, and present on Bayou Des Glaizes near Simmesport about September 1, 1917. J. S. Campbell reports it from Pool's Pond near Bienville during the summers of 1931, 1932, and 1933. The writer observed it on Ronquille Bay, June 8, 1933; on Grand Caillou Bayou and Bayou Salle, June 22, 1933; along Pass a Loutre in the Mississippi River Delta, June 7, 1933; at Archie, June 16, 1933; at Holly Ridge and



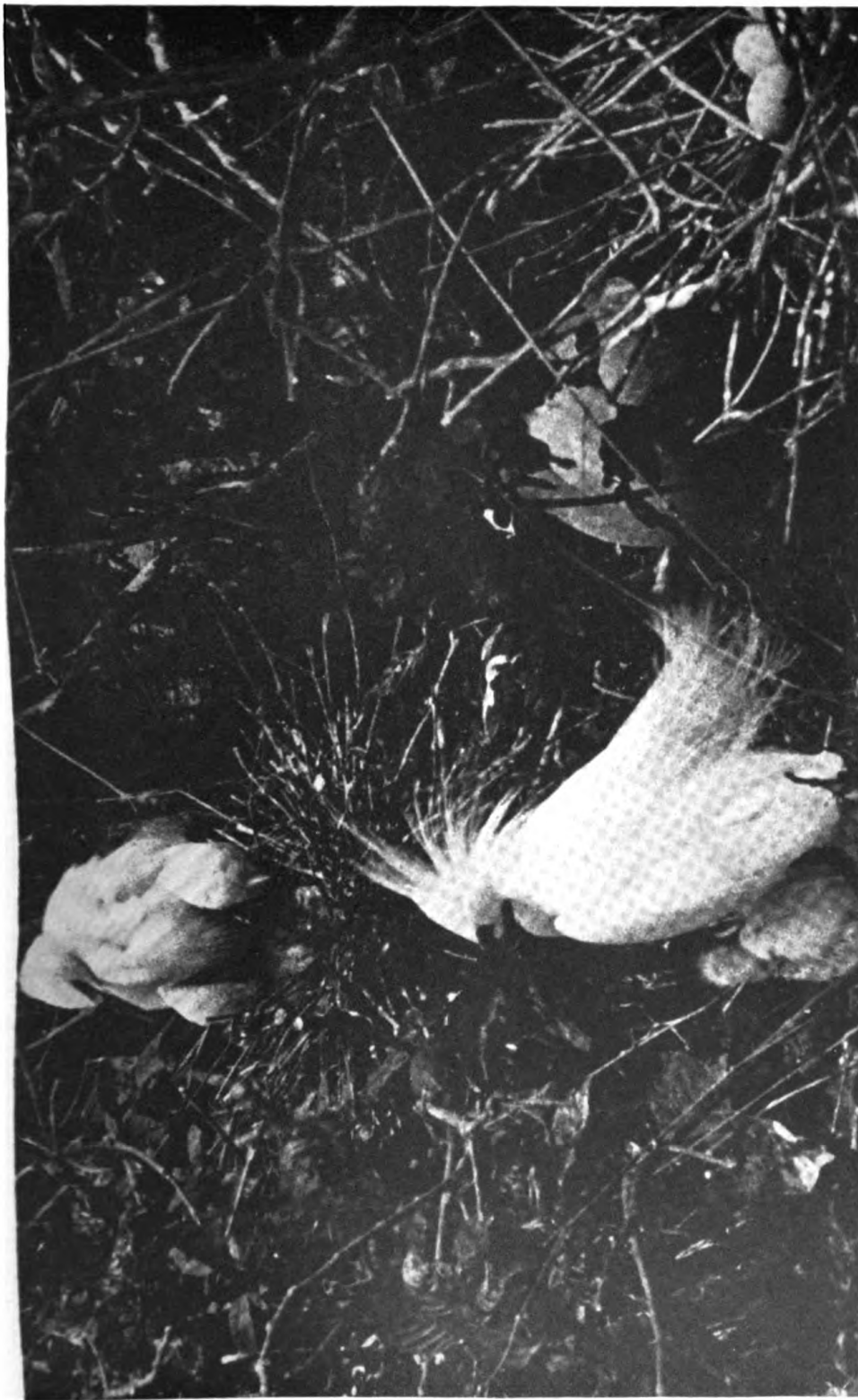
ADULT AMERICAN EGRETS (*Casmerodius albus egretta*) AND YOUNG.
Tallahassee, Fla., May 19, 1934.
(Photograph by A. M. Bailey and F. R. Dickinson.)



ADULT AMERICAN EGRET (*Casmerodius albus egretta*) AND YOUNG, NEAR VIEW.
Tallahassee, Fla., May 19, 1934.
(Photograph by A. M. Bailey and F. R. Dickinson.)



SNOWY EGRET (*Egretta thula thula*) ON NEST.
Avery Island, La., May 15, 1930.
(Photograph by A. M. Bailey and F. R. Dickinson.)



SNOWY EGRETS (*Egretta thula thula*) AND YOUNG.
Avery Island, La., May 15, 1930.
(Photograph by A. M. Bailey and F. R. Dickinson.)



YOUNG SNOWY EGRETS (*Egretta thula thula*).
Avery Island, La., May 15, 1930.
(Photograph by A. M. Bailey and F. R. Dickinson.)

Tendal on the Tensas River in Madison Parish, June 17, 1933; and at Cross Lake, west of Shreveport, June 18, 1933.

Winter birds presumably of this race were reported by H. H. Kopman at Hammond, January 24 and 25, 1918; on Freemason Island by W. M. Sprinkle, January 16, 1914; and the writer saw it on Calcasieu Lake, December 30, 1932; between the Orange-Cameron Land Company's club house and the Gulf of Mexico, January 24, 1928; on the Rainey Wild Life Sanctuary, January 22, 1928; at Avoca Island, January 28, 1932; Marsh Island, January 30, 1932; and on Lake Barre, Lake Felicity, Drum Lake (Lake Tambour), and Little Lake, all in Terrebonne Parish, December 23, 1932. In the Mississippi River Delta he found it very common on Octave Pass near the Delta Duck Club, January 22, 1932; and observed it also on Main Pass near Chateau Canard, December 19, 1932; Cognovich Pass, December 18, 1932; and on Pass a Loutre, December 17, 1932.

AMERICAN EGRET

Casmerodius albus egretta (Gmelin)

The rather large size, pure white plumage, yellow bill, and black legs of this bird make it conspicuous and easily identified among the birds of the marsh. It lives, as do most of the other herons, along the shores of marsh, lake, river, lagoon, and bay of the coast. Whether in flight, with its rather slow, measured wing-beat, perched on a tree or bush, or standing motionless along the shore or in the water of a pond or marsh, it is always an attractive and conspicuous object. The long plumes on the lower back are so beautiful that they led to their use as millinery ornaments, and, for a time, it seemed that this beautiful bird would be exterminated, at least in the United States, by the plume hunters. Fortunately, however, the bird has been preserved, and is now on the increase.

This heron sometimes assembles into considerable companies, although it does not move in dense flocks, as do some of the smaller water birds. It associates everywhere on friendly terms with other herons. Notwithstanding its

long legs and rather large size, the bird alights and moves about in trees with astonishing ease. Like most of the herons it is not a noisy bird, and its low 'cuk', which seems to be its only note, is heard most frequently during the breeding season. It roosts in the trees and bushes of swamps and similar places, together with other herons, sometimes in large numbers.

The food of this bird is obtained, as is the food of many other herons, along the marshy or shallow margins of lakes, ponds, or marshes, or in places in the rice fields. The bird stands or walks along very slowly, and when a victim is seen, such is speared by the sharp bill. Its food consists largely of frogs, lizards, small fishes, snails, crawfish, mice and other mammals, grasshoppers and other insects.

Like many of the herons, the American Egret nests in colonies, frequently in swamps or on islands, where the nests are placed usually in trees or bushes; and often in company with Louisiana Herons, Snowy Egrets, and Ward Herons. The nest is a rather large platform, although not ordinarily very compactly built. The nest materials are mostly sticks, with some lining of weed-stems, vines, or small twigs. Sometimes there are two or more nests in the same tree or bush. The three or four eggs are of the general appearance of other herons' eggs, and pale greenish in color. They hatch in about 24 days; and the young remain in the nest until usually able to fly, but they are easily frightened by the approach of an enemy, and sometimes leave on this account. They are fed by the parent birds, at first by regurgitated food, and later by fishes that are either partly digested or not at all, which the young pick up from the nest themselves.

The American Egret is a common permanent resident on the waters of the coastal prairie region of southern Louisiana, and a summer resident over the rest of the State; observed in northern Louisiana from April 19 to October 12. It has been reported north to near Tallulah, Prairie Mer Rouge, Monroe, Bienville, and Lake Bistineau; west to Bird Island in northwestern Cameron Parish; south to Mud Lake

in southwestern Cameron Parish, Lake Charles, Gueydan, Chenier au Tigre, Rainey Wild Life Sanctuary, Dulac, and the Mississippi River Delta; east to Main Pass in the Mississippi River Delta, the lower Mississippi River, Junior, Bird Island southwest of Breton Island, Hog Island, Jackson, Bains, Archie, St. Joseph, Newellton, and Thomastown. The northern limit of the winter range is not definitely determined, although it is known to occur at this season as far as Black Bayou in northwestern Cameron Parish, Avoca Island, Atchafalaya Swamp west of Baton Rouge, and New Orleans. It breeds in central and southern Louisiana, also on the Texas end of Caddo Lake, chiefly from April to June; and there are records of eggs from April 2 to May 4. It nests often in colonies with other herons, such as the Louisiana Heron, the Little Blue Heron, and the Snowy Egret. In the post-breeding season it is occasionally seen in companies of several thousands.

J. J. Kuhn reported this egret numerous in the swamps about five miles east of Tallulah, September 28, 1933; and H. H. Kopman, common at Thomastown, July 13 to 28, 1896. A specimen was collected by J. Fairie at Prairie Mer Rouge in 1853. J. S. Campbell noticed it at Bienville, June 2, July 5, and October 12, 1932. George H. Lowery, Jr., observed a few of these egrets in a large nesting colony of Little Blue Herons at Moss Lake, 10 miles north of Lake Charles in June, 1935. Stanley C. Arthur found nests with young at Jackson in East Feliciana Parish on May 20, 1916. The writer noted it at Lottie and Krotz Springs, June 21, 1933; at Archie, St. Joseph, and Newellton, June 16, 1933; at Dulac on Grand Caillou Bayou in Terrebonne Parish, June 22, 1933; at Main Pass in the Mississippi River Delta, June 7, 1933; and to the number of over 200 about Bird Island southwest of Breton Island, June 6, 1933. E. R. Kalmbach obtained a specimen 3½ miles south of Gueydan, July 30, 1925. H. H. Kopman saw a single individual at Junior, August 4 and 5, 1917; and W. M. Sprinkle, approximately 100 individuals feeding about Hog Island, October 11, 1913. Specimens were obtained at Ged in southwestern Calcasieu Parish on June 1, 1930, by E. G. Wright; at Pilot Town,

October 24, 1928, by A. M. Bailey; Carr's Creek in Jackson Parish, June 5, 1937, by George H. Lowery, Jr., and Grand Isle, June 15, 1937, by S. Ward.

During the winter the writer has observed this species at various localities throughout most of the Gulf Coast region of the State. In the Mississippi River Delta he noted it rather commonly at the Delta Duck Club on Octave Pass, January 22, 1932; Gasper Pass, December 19, 1932; Dead Woman Pass and Cognovich Pass, December 18, 1932; Dennis Pass, December 17, 1932; and on Main Pass near Chateau Canard, December 19, 1932. It was also fairly common along the lower Mississippi River from the State Public Shooting Grounds to Ostrica. He met with it at Boudreaux Lake in Terrebonne Parish and on Little Caillou Bayou, near Bush Canal, December 24, 1932. He saw 30 of these birds, January 28, 1932, at Avoca Island; and detected the species also on the Rainey Wild Life Sanctuary, January 23, 1928; along Black Bayou in the northwestern part of Cameron Parish, January 24, 1928; and at Mud Lake in southwestern Cameron Parish, January 26, 1928. George E. Beyer reported this egret at New Orleans on December 19, 1893. The northernmost winter record for the State is a single bird seen by George H. Lowery, Jr., in the Atchafalaya Swamp 30 miles west of Baton Rouge.

SNOWY EGRET

Egretta thula thula (Molina)

The pure white plumage, black bill and legs, moderate size, and beautiful plumes on the back and head, easily distinguish this bird from all the other inhabitants of the marsh. The only bird with which it is likely to be confused is the young Little Blue Heron, which, though mostly white, usually has some tinge of gray on the wing tips, lacks entirely the plumes of the Snowy Egret, and has also dark greenish olive, instead of black, legs and feet. This egret is another one of the birds that, for many years, suffered from the inroads of the plume hunters, but it is now so carefully protected that it seems to be steadily increasing

in numbers, a very desirable situation, since the bird is one of the most beautiful and attractive of all our marsh birds.

The Snowy Egret lives in very much the same sort of places as does the American Egret, and is at home in the marshes or along streams, and about the lagoons of the coast, as well as the marshes and ponds of the interior. It may be seen commonly in flight over the marsh or about the muddy margins of streams, inlets, bayous, or other similar places, either resting or watching for its food. At night it assembles into roosts, which sometimes are of considerable size, these roosts being usually in swamps or marshes, where the birds perch on the trees, usually over the water. In flight it is rather more active than the American Egret, with more rapid wing-beats, and is astonishingly active for a bird with such long legs and neck.

The food of this bird consists of various water animals, such as fishes, shrimps, crabs and other crustaceans, snails, lizards, frogs, and insects including cutworms and grasshoppers. Evidently, in its food habits, it is decidedly not injurious.

This bird usually nests in colonies, either on islands or in marshes, placing the nest commonly in bushes or low trees. In some places, however, the nests are built in the reeds but a short distance above the water, and often in colonies of other herons. The nest is composed chiefly of sticks and marsh vegetation, including roots, the lining being of finer materials of the same kind. Sometimes, however, the entire nest is made of rushes or reeds, with a similar lining, and is usually not very compactly built. The four or five eggs are pale bluish green, and hatch in about 18 days. As with other herons the young are rather helpless and need care for a long time in the nest, usually more than three weeks. They are fed by the parents on regurgitated food, at least during the early part of their existence.

The Snowy Egret is a common, locally abundant, permanent resident in the Gulf Coast region of Louisiana, wintering north to Calcasieu Lake, Avery Island, and Avoca Island; a common summer resident from March 23 to

October 14 in central Louisiana, and a fairly common summer visitor to northern Louisiana. As a summer bird it has been reported north to Madison Parish, Monroe, Saline, Lake Bistineau, and Caddo Lake; west to Caddo Lake, Vinton, and Bird Island in Cameron Parish; south to Calcasieu Pass, Chenier au Tigre, Avery Island, Bayou Penelle in Terrebonne Parish, East Timbalier Island, Grand Isle, Ronquille Bay, and Southwest Pass in the Mississippi River Delta; and east to Willow Pass, the mouth of Pass a Loutre, and Main Pass in the Mississippi River Delta, Bird Island southwest of Breton Island, Bains, Jackson, Frogmore, and Newellton. It breeds in many colonies in southern and central Louisiana, with other herons and the Anhinga, on the islands and mainland of the Gulf Coast, and in the lakes and swamps of the interior; the largest colony being on Avery Island. The nesting season is from April to July, and there are records of eggs from April 9 to June 21. This egret has greatly increased in Louisiana during recent years, in part by reason of the Avery Island colony.

In the United States National Museum there are eggs of this species collected at Avery Island by Robert Butler McLain, April 9, 1893. Richard Gordon reported it nesting in the marshes 10 miles north of the Rainey Wild Life Sanctuary, June 9, 1933; and Ambrose Daigre at Grand Isle, April 19, 1936. J. D. Figgins found it breeding on Black Bayou in Cameron Parish in June, 1919; George H. Lowery, Jr., noted a few individuals in a nesting colony of Little Blue Herons, at Moss Lake, 10 miles north of Lake Charles, in June, 1935, and Stanley C. Arthur discovered nests and young at Jackson in East Feliciana Parish, May 20, 1916. The writer saw about 100 pairs nesting on the various islands of Ronquille Bay in colonies of the Louisiana Heron, and their nests contained eggs at the time of his visit, June 8, 1933. Large numbers of Snowy Egrets were, as usual, breeding on E. A. McIlhenny's lake at Avery Island, June 21, 1933. At this time the nests contained eggs or young, although many of the young were full grown. This is perhaps the most important colony of the Snowy Egret in the United States, and it is due entirely to the interest and protection afforded by Mr. McIlhenny.

G. Würdemann collected specimens of the Snowy Egret at Calcasieu Pass in the spring of 1854; Ambrose Daigre at Grand Isle, April 11, 1936; and E. G. Wright at Avery Island, May 8, 13, and 17, 1930. The writer noted it at Vinton, Lacassine, Roanoke, and Mermentau, June 20, 1933, chiefly on the prairies, in the wheat fields, and along the beaches and ditches; at Bayou Penelle in Terrebonne Parish, June 22, 1933; Frogmore and Newellton, June 16, 1933; and Caddo Lake, June 18, 1933. J. J. Kuhn says that in the summer of 1933 it was of frequent occurrence in Madison Parish. J. S. Campbell reports it of regular occurrence at Saline and Lake Bistineau, from April 20 to October 14. The writer counted 268 Snowy Egrets about Bird Island southwest of Breton Island, June 6, 1933; and he saw the species also commonly in the Mississippi River Delta, June 7, 1933, along Main Pass, Pass a Loutre, about the Mud Lumps at the mouth of Pass a Loutre, and in Southwest Pass as far south as Burwood. George H. Lowery, Jr., reported its arrival near Baton Rouge, March 23, 1933.

It does not seem to be so common during the winter in the Gulf Coast region of Louisiana as in the summer. A. M. Bailey met with it at Chenier au Tigre, December 8 to 18, 1925; and the writer saw it at Grand Chenier, December 31, 1932; 12 individuals at Calcasieu Lake on the same day; also several at Avery Island, December 28, 1932; on Little Wax Bayou and Avoca Island, January 28, 1932. In the Mississippi River Delta it is fairly common and well distributed. The writer counted 98 individuals near the Delta Duck Club on Octave Pass, January 19, 1928; and in 1932, a few on Main Pass near Chateau Canard, December 19; on Willow Pass, December 20; on Cognovich Pass, December 18; and on Dennis Pass and Johnson Pass, December 17.

BREWSTER EGRET

Egretta thula brewsteri Thayer and Bangs

A single specimen of a large female Snowy Egret, which is obviously not the eastern race, *Egretta thula thula*, was taken by A. M. Bailey, at Avery Island, Louisiana, on May

18, 1918. It is tentatively recorded under the name *Egretta thula brewsteri* pending a further investigation into its status, which is not possible at the present time.

REDDISH EGRET

Dichromanassa rufescens rufescens (Gmelin)

The Reddish Egret is a casual summer visitor to the southwestern part of the Gulf Coast region of Louisiana. There are several reports of its occurrence but apparently few definite records.

E. S. Hopkins collected a specimen at Grand Isle, July 25, 1931.¹⁸ H. H. Kopman states that he has seen it on Isle Derniere;¹⁹ and it was also reported from Thompson Creek between East Feliciana and West Feliciana parishes in 1915.¹⁷

The Reddish Egret was doubtless formerly more common than it is at the present time, as appears from George E. Beyer's statement in 1900 that it was a common resident along the coast during the summer.

LOUISIANA HERON

Hydranassa tricolor ruficollis (Gosse)

Of moderate size, with a rather slender bill, the Louisiana Heron may easily be distinguished by its light grayish upper surface, rather long, reddish neck, and white lower parts of the body. In some regions, such as in Louisiana and Texas, it seems to prefer the coastal marshes and lagoons, with their islands, to the interior parts of the country.

In general habits this bird is very much like the other herons of similar size. It is very fond of the marshy prairies, and may frequently be seen sitting about the edges of small pools. It roosts like the other herons, and even in company with them.

The food of this heron, which it seeks in the shallow water about the margins of ponds, marshes, meadows, and

¹⁸La. Cons. Review, Vol. II, No. 10, July, 1932, p. 23.

¹⁹Bull. La. Dept. Cons., No. 10, December, 1921, p. 149.

¹⁷Bull. La. Dept. Cons., No. 20, December, 1931, p. 84.

rice fields, is caught by the bird as it walks or runs along. It lives on various kinds of fishes; worms; insects such as cutworms and grasshoppers; lizards; and crawfishes. Its destruction of grasshoppers more than makes up for any possible damage it may do in eating fish that are of use to man.

Its courtship is one of the notable features of its life history, and the efforts that the male makes by bowing and dancing from branch to branch are very interesting to the observer. Like so many of the other long-legged birds, the Louisiana Heron is surprisingly agile and secure on the branches of the trees. The nests are often in considerable colonies, either on islands, in swamps, or drier forests, and often in company with other species of herons. The nests are placed in trees or bushes, and are composed of sticks, canes, or other marsh vegetation, rather loosely put together, and lined with finer materials of similar kind. The eggs are usually four or five, and light bluish green in color, without markings. It requires about three weeks for the young to hatch, and they are cared for by the parents in a way similar to that of other herons. They are fed by regurgitation for a considerable period, and are looked after in some cases even after leaving the nest. Sometimes, since they are easily frightened, they desert the nest before they are grown, and spend the rest of their growing period climbing about the bushes, which they do with considerable agility. Many of them, however, are lost by falling and being unable to recover themselves from the water.

The Louisiana Heron is a permanent resident, abundant in summer, only fairly common in winter, in the Gulf Coast region of Louisiana, the migrants returning from the south in March. It ranges regularly from the southwestern part of Cameron Parish, Grand Chenier, Chenier au Tigre, Marsh Island, Isle Derniere, East Timbalier Island, Grand Isle, Octave Pass and Main Pass in the Mississippi River Delta, Bird Island southwest of Breton Island, Hog Island, and Battledore Island; north to Black Bayou in Cameron Parish, Vinton, Calcasieu Lake, Moss Lake 10 miles north of

Lake Charles, Avery Island, Morgan City, New Orleans, Lake Catherine, Martin Island, Freemason Island, and Chandeleur Island. It breeds casually north also to Jackson in East Feliciana Parish, and is a casual summer visitor north to the northwestern corner of the State at Frierson in De Soto Parish. It breeds from early April to late July; and there are records of eggs from April 9 to June 21. Its breeding habitat is chiefly the brushy islands of the Gulf Coast and inlets, but it nests also in places on the mainland in colonies, some of which are of considerable size; here as elsewhere associating with other herons such as the Snowy Egret, Little Blue Heron, Yellow-crowned Night Heron, and others. The Louisiana Heron is well named, since it is probably as numerous in the State of Louisiana as in any other similar area.

The writer has seen specimens from Morgan City, November 2, 1925, collected by Mrs. Ruth D. Svihla; Avery Island, May 8 and 17, 1930, E. G. Wright; New Orleans, July 6, 1936, by T. D. Burleigh; and from Grand Isle, May 2, 1925. It was taken also at Chenier au Tigre, July 21, 1925, by C. C. Sperry; and on Hog Island, June 4, 1919, by E. R. Kalmbach. The writer found several nesting colonies on islands in Ronquille Bay, June 8, 1933, some of these containing eggs, others young in various stages of development. A. C. Bent noted a colony of these birds on Battledore Island, June 21, 1910; and W. M. Sprinkle reported it breeding on Freemason Island, the nests containing eggs on April 16, 1915; and also breeding on Freemason Island, May 27, 1915. Eggs in the collection of H. W. Carriger were collected near Vinton, May 5, 1922. George H. Lowery, Jr., discovered a few breeding in a colony of Little Blue Herons at Moss Lake, 10 miles north of Lake Charles in June, 1935. The Louisiana Heron is one of the abundant breeding birds at E. A. McIlhenny's famous heron preserve at Avery Island, and the writer saw many nests with eggs and many with young there on June 21, 1933. Stanley C. Arthur states that on June 18, 1918, it was breeding on Black Bayou in Cameron Parish, and R. E. Rachford collected eggs there on May 19, 1886; and the writer found a large number

of Louisiana Herons at Bird Island southwest of Breton Island, June 6, 1933, where they were evidently nesting. Ambrose Daigre reports large numbers nesting at Grand Isle on April 19, 1936. The writer noted the species also on Chandeleur Island, Brush Island, and Martin Island, June 4, 1933; on Grand Caillou Bayou between Dulac and Four Bayou, on Bayou Salle, and Lake Pelto, all in Terrebonne Parish, and a considerable number of individuals on Isle Derniere on June 22, 1933. Stanley C. Arthur reports a single nest found at Jackson, May 20, 1916; and J. K. Streck-er records seeing a single bird at Frierson in De Soto Parish, June 9, 1928. The species was common on Main Pass in the Mississippi River Delta, June 7, 1933. H. H. Kopman observed the species at Junior, August 4 and 5, 1917; at Phoenix, April 9 and 10, 1918; Carlisle, October 4 and 5, 1917; at Savoie, April 14, 1918; at Caernovan, April 16 to 18, 1918; at Lake Catherine, April 4 and 5, 1918; and at Belair, April 21, 1917.

Although the species is not so common in Louisiana during the winter as in the summer, it is of general distribution along the Gulf Coast. W. M. Sprinkle saw, February 4, 1914, on Chandeleur Island, 100 Louisiana Herons feeding. The writer came upon a few individuals at the Delta Duck Club in the Mississippi River Delta, January 22, 1932, and January 19, 1928; on Lake Barre, Lake Felicity, and Deep Lake, all in Terrebonne Parish, December 23, 1932; at Boudreaux Lake in the same region, December 24, 1932; at Avery Island, December 28, 1932; Rainey Wild Life Sanctuary, January 22, 1928; Grand Chenier, a single bird, December 31, 1932; also between the Orange-Cameron Land Company's club house and the beach of the Gulf of Mexico, one on January 26, 1928; and one at Calcasieu Lake, December 30, 1932.

LITTLE BLUE HERON

Florida caerulea caerulea (Linnaeus)

The Little Blue Heron is well named, for the plumage of the adult is wholly bluish slate color, except for the maroon tinge of the head and neck. The immature bird,

however, is white, except for some slate gray tinge on the ends of the primaries, and sometimes patches of this color over the rest of the plumage. It is one of the best known of the smaller herons, and is common throughout much of its southern range. In common with the American Egret and the Snowy Egret, it has a very definite northward movement after the breeding season, and is found in late summer in some numbers far to the north of its breeding range in the southern states. It is more of an inland than a coast bird, although it is found also at times in the lagoons and marshes of the coastal regions. Like other herons it is fond of the marshes, small lakes, ponds, and the reedy or marshy borders of streams, and similar kinds of country.

In flight and general habits it is much like the Snowy Egret, and, like that species, roosts in numbers in the trees or bushes of the swamps. It seeks its food along the edges of marshes, in meadows or rice fields, and along the marshy shores of lakes and ponds, where it walks quietly about on the alert for its prey, which, when seen, it seizes quickly with its bill. It lives chiefly on crawfishes, shrimps, lizards, frogs, grasshoppers, cutworms, other insects, and small fishes. One of the peculiarities of this bird is its fondness for crawfishes, and on this account it has gained the friendship of the rice growers, who regard it as exceedingly useful in keeping down these crustaceans, which infest the rice field levees. From the habit of seeking its food in this way it has acquired the name 'levee walker'.

This heron breeds in colonies, often of considerable size, and associated commonly with the Louisiana and other herons. These nesting colonies are on islands or in swamps, where the bird places its nests in the bushes or trees, usually less than 40 feet from the ground. Occasionally a large number of nests are found in a single bush. The nest itself is a rather fragile platform, chiefly of sticks, and with a lining of finer twigs. The four or five eggs are pale bluish green. The young are fed, as is the case with other herons, on regurgitated food for a considerable period of their life in the nest.

The Little Blue Heron is an abundant summer resident, from early March to October 29, and breeds throughout the State in suitable water areas. It has been reported north to Waverly, Delhi, Jones in Morehouse Parish, Monroe, Bienville, and Caddo Lake; west to Caddo Lake, Atkins, Newton, Toomey, and Cameron Farm 14 miles south of Vinton; south to Mud Lake in southwestern Cameron Parish, Chenier au Tigre, Avery Island, Southwest Pass, Pilot Town, and Pass a Loutre in the Mississippi River Delta; and east to Bird Island southwest of Breton Island, Brush Island, Grand (Half Moon) Island in Lake Borgne, Lake Catherine, Rigolets, Ponchatoula, Jackson, Simmesport, Archie, Frogmore, Somerset, Thomastown, and the Singer Preserve in Madison Parish. It is also a fairly common winter resident in the coastal waters of the Gulf of Mexico, from the Mississippi River Delta and Mud Lake in southwestern Cameron Parish, north at least to Black Bayou in Cameron Parish, Calcasieu Lake, Rainey Wild Life Sanctuary, and the lower Vermilion River. It breeds in colonies with other herons such as the Snowy Egret and Yellow-crowned Night Heron, and with the Anhinga, from early May to July; and there are records of eggs from April 7 to June 21.

The writer has seen specimens from Jones in Morehouse Parish, collected, June 30, 1910, by A. H. Howell; from Cameron Farm 14 miles south of Vinton, May 12 and 14, 1919, by E. R. Kalmbach; and from Avery Island, May 9 and 17, and August 15, 1930. One was obtained also at Gueydan, May 23, 1925, by E. R. Kalmbach. George H. Lowery, Jr., reported a large nesting colony numbering some 15,000 birds, mostly of this species, at Moss Lake, 10 miles north of Lake Charles, in June, 1935. Nesting with the Little Blue Herons were some Snowy Egrets, American Egrets, Louisiana Herons, and Anhingas. J. S. Campbell found a small colony of Little Blue Herons in the summer of 1932 on a small lake near Castor in Bienville Parish. Stanley C. Arthur found nests and young of this species at Jackson in East Feliciana Parish, May 20, 1916; and the writer saw nests, mostly with young, many of them full grown, in the McIlhenny Preserve at Avery Island, June 21, 1933. He

noted it on the prairies and along the bayous at Toomey, Vinton, Sulphur, Lake Charles, Iowa (La.), Roanoke, and Mermentau, June 20, 1933; at Newton, June 19, 1933; Atkins and Caddo Lake, June 18, 1933; Monroe, Waverly, and Delhi, June 17, 1933. J. S. Campbell reported its spring arrival at Bienville, April 10, 1932, and its departure on October 20 of the same year. It was also present on the Singer Preserve along the Tensas River 13 miles southwest of Tallulah on June 16 and 17, 1933; and H. H. Kopman listed it as abundant at Thomastown in Madison Parish, July 13 to 28, 1896. The writer noticed it at Archie, Frogmore, and Somerset, June 16, 1933; at Dulac, on Grand Caillou Bayou from Dulac to Four Bayou, and on Bayou Penelle, all in Terrebonne Parish, June 22, 1933. In the Mississippi River Delta it was common on June 7, 1933, when he met with it at Pilot Town, Pass a Loutre, Main Pass, and Southwest Pass down to Burrwood. He observed this heron at The Rigolets, June 2, 1933; on Brush Island and Half Moon Island (Grand Island) in Lake Borgne on June 3, 1933; with other herons on Bird Island southwest of Breton Island, June 6, 1933; and common also in the cypress swamps near Lottie, June 15, 1933.

Although the Little Blue Heron is, in Louisiana, not so common in the winter as in the summer, it is, like most of the herons, fairly well distributed at this season throughout the Gulf Coast region. A. M. Bailey recorded a few at Chenier au Tigre between December 8 and 18, 1925; and G. A. Hillery collected a specimen at Carlisle, January 11, 1920. The writer listed it on the Rainey Wild Life Sanctuary, January 22, 1928; and along the lower Vermilion River on the following day. One bird was seen by him on Calcasieu Lake, December 31, 1932; another on Black Bayou in northwestern Cameron Parish, January 27, 1928; and several individuals at Mud Lake in southwestern Cameron Parish, January 26, 1928. In the Mississippi River Delta it was fairly common in January and December, 1932, where he detected it at the Delta Duck Club on Octave Pass, January 22, 1932; at Chateau Canard on Main Pass on the same day; on Gasper Pass, December 19, 1932; Willow Pass, December 20, 1932; Dead Woman Pass, December 18, 1932; and on Den-

nis Pass, December 17, 1932. Along the Mississippi River between the State Public Shooting Grounds and Ostrica he saw two individuals on January 23, 1932.

EASTERN GREEN HERON

Butorides virescens virescens (Linnaeus)

The Green Heron, or as it is called in some parts of the country, 'shitepoke', is one of the most widely distributed of the herons of the United States, as it breeds north to southern Canada, as well as south to Central America. It is readily distinguishable by its small size, dark greenish upper parts, and maroon-colored neck. The Eastern Green Heron which occupies the eastern half of the United States is the subspecies found in Louisiana.

It lives along the shores of lagoons and marshes of the coastal regions, as well as about the lakes, ponds, swamps, marshes, and streams of the interior. As it is a migratory bird in the north, it spends the winter in the southern United States, or farther south.

On the wing it is rather deliberate, and its flight somewhat resembles that of a crow. It is not as gregarious as most of the other herons, and, while small companies are sometimes found together, particularly during the migrations, it is usually seen singly about the edges of the marsh, on mud flats, or similar places. It does not resort to roosts in such numbers as do many of the other herons. Its note is a hoarse croak, which is rather frequently heard.

It lives on a variety of food, including crawfishes, frogs, crabs, lizards, small fishes, tadpoles, various kinds of water inhabiting insects, grasshoppers, cutworms, and other insects, together with sometimes earthworms, snakes, and small mammals. This food is gathered both in the marshes and on the uplands.

Although this heron sometimes nests in colonies, it commonly does so singly, and while occasionally it breeds in company with other herons, it apparently prefers its own society to that of neighbors. The nest is located ordi-

narilly not far from water, though even on cultivated ground, such as orchards, or in dry woodlands, as well as in the marshes or swamps. This is placed usually at moderate height from the ground, in a bush or low tree, but sometimes in the top of a high tree, even occasionally on the ground, or on the house of a muskrat. The nest is a rather flimsy structure of sticks, with but a slight depression for the eggs, although sometimes the material includes reeds, weed-stalks, and similar materials. The four to five eggs are pale green, and are hatched in about two and one-half weeks. The young are fed by regurgitation for a considerable period; but they early develop a faculty for climbing about the branches in the vicinity of the nest, particularly when they are disturbed by the approach of a potential enemy. In this climbing about the branches, in addition to the feet they use the wings, bill, and neck. The young also are able to swim rather well while still unable to fly. One of the conspicuous habits of the young of this bird is the vomiting of their food whenever they are disturbed in the nest, which feature makes it rather disagreeable for anyone who wishes to study their habits closely.

The Eastern Green Heron is a common summer resident, from March 14 to October 27, throughout Louisiana, from the Gulf Coast to the northern border; reported north to Prairie Mer Rouge, Monroe, Bienville, and Caddo Parish; west to Caddo Lake, Cross Lake, Taylortown, Natchitoches, Toomey, Ged, and Black Bayou in Cameron Parish; south to Calcasieu Pass, Rainey Wild Life Sanctuary, Avery Island, Isle Derniere, Grand Isle, Ronquille Bay, and Southwest Pass in the Mississippi River Delta; and east to Pass a Loutre and Main Pass in the Mississippi River Delta, Phoenix, Carlisle, Bayou Loutre in St. Bernard Parish, Lake Catherine, Jackson, Simmesport, Newellton, Thomas-town, and Tallulah. It is found in all suitable water areas, such as bayous and canals, breeding from early April to June or July; and there are records of eggs from April 3 to June 8.

Specimens of this heron were taken at Morgan City, September 3, 1925, by Mrs. Ruth D. Svihla; at Gueydan,



LOUISIANA HERON (*Hydranassa tricolor ruficollis*) ON NEST.
Avery Island, La., May 15, 1930.
(Photograph by A. M. Bailey and F. R. Dickinson.)



LITTLE BLUE HERON (*Florida caerulea caerulea*) ON NEST.

Avery Island, La., May 15, 1930.

(Photograph by A. M. Bailey and F. R. Dickinson.)



ADULT AND YOUNG EASTERN GREEN HERON (*Butorides virescens virescens*).

Avery Island, La., May 15, 1930.

(Photograph by A. M. Bailey and F. R. Dickinson.)

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The writer has seen specimens from Jones in Morehouse Parish, collected, June 30, 1910, by A. H. Howell; from Cameron Farm 14 miles south of Vinton, May 12 and 14, 1919, by E. R. Kalmbach; and from Avery Island, May 9 and 17, and August 15, 1930. One was obtained also at Gueydan, May 23, 1925, by E. R. Kalmbach. George H. Lowery, Jr., reported a large nesting colony numbering some 15,000 birds, mostly of this species, at Moss Lake, 10 miles north of Lake Charles, in June, 1935. Nesting with the Little Blue Herons were some Snowy Egrets, American Egrets, Louisiana Herons, and Anhingas. J. S. Campbell found a small colony of Little Blue Herons in the summer of 1932 on a small lake near Castor in Bienville Parish. Stanley C. Arthur found nests and young of this species at Jackson in East Feliciana Parish, May 20, 1916; and the writer saw nests, mostly with young, many of them full grown, in the McIlhenny Preserve at Avery Island, June 21, 1933. He

May 23, 1925, and Chef Menteur, May 22, 1919, by E. R. Kalmbach; at Grand Isle, April 8, 1936, by Ambrose Daigre, and June 17 and July 24, 1937, by S. Ward; at Caminada Bay, June 22, 1937 by S. Ward; at Calcasieu Pass in the spring of 1854 by G. Würdemann; at Prairie Mer Rouge in 1853 by J. Fairie; and at Ged in southwestern Calcasieu Parish, June 1, 1930, by E. G. Wright. J. S. Campbell came upon four nests near Lucky, in Bienville Parish, April 28, 1932, and the next year there were six nests in the same place.

Stanley C. Arthur reported this species from Jackson in East Feliciana Parish on May 20, 1916; H. H. Kopman from Lake Catherine, April 4 and 5, 1918; Phoenix, September 12 to 15, 1917, and October 27, 1917; Carlisle, October 4 and 5, 1917; and Simmesport, August 31 to September 2, 1917. George E. Beyer noted its arrival at New Orleans, March 21, 1894; George H. Lowery, Jr., at Baton Rouge, March 14, 1933; and J. S. Campbell, at Bienville in northern Louisiana, April 6, 1932. The writer found the Eastern Green Heron in the Mississippi River Delta on June 7, 1933, common along Pass a Loutre, Main Pass, and Southwest Pass about Burrwood. In 1933 he noted it also at Ronquille Bay, June 8; Avery Island, June 21; Isle Derniere, June 22; common along the Dupres Canal in Jefferson Parish, and on Bayou Cutler, also present on Little Barataria Bayou, on June 10. He saw it in 1933 at Waggaman, June 23; at Broussard, June 21; and at Lottie on June 15. H. H. Kopman, at Thomastown, regarded it abundant from July 13 to 28, 1896; and the writer observed it at Tallulah and Newellton, June 16, 1933; at Caddo Lake, Cross Lake, and Taylortown, June 18, 1933; at Natchitoches, June 19, 1933; at Toomey, Cameron Farm 14 miles south of Vinton, Vinton, and Lake Charles, on June 20, 1933.

BLACK-CROWNED NIGHT HERON

Nycticorax nycticorax hoactli (Gmelin)

The rather heavy build, black crown, gray upper parts, and pale grayish or whitish lower surface of the Black-crowned Night Heron, usually serve to distinguish it from

narily not far from water, though even on cultivated ground, such as orchards, or in dry woodlands, as well as in the marshes or swamps. This is placed usually at moderate height from the ground, in a bush or low tree, but sometimes in the top of a high tree, even occasionally on the ground, or on the house of a muskrat. The nest is a rather flimsy structure of sticks, with but a slight depression for the eggs, although sometimes the material includes reeds, weed-stalks, and similar materials. The four to five eggs are pale green, and are hatched in about two and one-half weeks. The young are fed by regurgitation for a considerable period; but they early develop a faculty for climbing about the branches in the vicinity of the nest, particularly when they are disturbed by the approach of a potential enemy. In this climbing about the branches, in addition to the feet they use the wings, bill, and neck. The young also are able to swim rather well while still unable to fly. One of the conspicuous habits of the young of this bird is the vomiting of their food whenever they are disturbed in the nest, which feature makes it rather disagreeable for anyone who wishes to study their habits closely.

The Eastern Green Heron is a common summer resident, from March 14 to October 27, throughout Louisiana, from the Gulf Coast to the northern border; reported north to Prairie Mer Rouge, Monroe, Bienville, and Caddo Parish; west to Caddo Lake, Cross Lake, Taylortown, Natchitoches, Toomey, Ged, and Black Bayou in Cameron Parish; south to Calcasieu Pass, Rainey Wild Life Sanctuary, Avery Island, Isle Derniere, Grand Isle, Ronquille Bay, and Southwest Pass in the Mississippi River Delta; and east to Pass a Loutre and Main Pass in the Mississippi River Delta, Phoenix, Carlisle, Bayou Loutre in St. Bernard Parish, Lake Catherine, Jackson, Simmesport, Newellton, Thomas-town, and Tallulah. It is found in all suitable water areas, such as bayous and canals, breeding from early April to June or July; and there are records of eggs from April 3 to June 8.

Specimens of this heron were taken at Morgan City, September 3, 1925, by Mrs. Ruth D. Svihla; at Gueydan,

ing very loosely built, at other times substantially constructed. The materials are usually sticks, from various kinds of trees, with an interior construction or lining of small twigs, vines, roots, and grasses. The eggs are usually three to five, and are of a pale bluish green color, without markings. The young, like those of most herons, are cared for by the parents until they are able to fly, and they are fed, at least early in their lives, on regurgitated food, by the insertion of the bill of the parent into the mouth of the young. The young have the same habit as the young of the Green Heron, of throwing up their food, when, for any reason, they become excited.

The Black-crowned Night Heron is a fairly common permanent resident throughout Louisiana, frequenting the streams, bayous, and various other bodies of waters, both along the Gulf Coast and inland; reported north to Lake Providence, Mer Rouge, and Lake Hayes ten miles west of Shreveport; west to the Sabine River and Black Bayou in Cameron Parish; south to Calcasieu Pass, Chenier au Tigre, Grand Isle, Ronquille Bay, and Cognovich Pass in the Mississippi River Delta; and east to Pass a Loutre in the Mississippi River Delta, Octave Pass, Breton Island, Martin Island, West Feliciana Parish, Lake Moreau, and Tallulah. It breeds from March to June, and there is record of eggs on April 7. It is found in colonies of other herons such as the Yellow-crowned Night Heron, Great Blue Heron, and Snowy Egret.

E. S. Hopkins collected this species on Grand Isle, April 6, 1926; G. Würdemann at Calcasieu Pass in the spring of 1854; and W. L. McAtee on Octave Pass in the Mississippi River Delta, January 30, 1910. Robert Butler stated in 1933 that it bred in West Feliciana Parish; R. H. Sterling reported its nesting on May 12, 1919, at Lake Moreau, Pointe Coupee Parish; and Ambrose Daigre sparingly at Grand Isle, April 19, 1936. Eggs have been taken on Black Bayou in Cameron Parish as early as April 7. E. R. Kalmbach noted it fairly common at a point ten miles south of Tallulah, and also east of there, June 13 to July 13, 1924; and Vernon

Bailey listed one shot at Mer Rouge, June 6, 1892. Ned Hollister detected it at Belair, April 4, 1904; and H. H. Kopman considered it fairly common at Phoenix, October 23, 1917. The writer found it common at Livonia and at Lottie, June 15, 1933; also observed it on Martin Island, June 4, 1933; on Breton Island, June 5, 1933; along Pass a Loutre in the Mississippi River Delta, June 7, 1933; and in Ronquille Bay, probably nesting on the islands, June 8, 1933.

It seems not to be so numerous during the winter as at other seasons, but A. M. Bailey recorded it at Chenier au Tigre, December 8 to 18, 1925; and the writer saw a single individual on the Rainey Wild Life Sanctuary, January 22, 1928; one individual on Cognovich Pass in the Mississippi River Delta, December 18, 1932; another near the Orange-Cameron Land Company's club house in southwestern Cameron Parish, January 25, 1928; and two between the same club house and the beach of the Gulf of Mexico on January 26, 1928. G. K. Cherrie collected a specimen at Buras, on February 6, 1896.

YELLOW-CROWNED NIGHT HERON

Nyctanassa violacea violacea (Linnaeus)

Similar in appearance to the Black-crowned Night Heron, this bird differs chiefly in having the crown white or yellowish white. It is a bird of much more southern distribution than is the other Night Heron, and inhabits chiefly the southern United States.

It inhabits the marshes, cypress and other swamps, and also along the bayous, marshy lakes, and shallow bodies of water, but sometimes in drier situations, and even in rocky areas. It is, in most parts of its range, not so numerous a bird as its black-crowned relative, and does not gather ordinarily into companies of such large size, this possibly due to the probably smaller numbers of the bird as a whole, at least in the United States.

In food habits it is more diurnal, although it does feed also at night. It lives chiefly on crawfishes, crabs, and other crustaceans, snakes, snails, fishes, lizards, leeches, also even small mammals and injured birds.

It breeds in the wooded swamps, and on islands in the marshes, sometimes in small bushes or low trees, even but a short distance above the water, or in the upper parts of tall trees in the wooded swamps. Sometimes it builds on dry ground or in the mangroves along the coast. The nest is usually constructed of sticks and weed-stalks, and lined with smaller twigs, roots, weeds, and leaves; and is sometimes a rather slight structure, sometimes more substantial. The eggs are usually three or four, of a pale bluish green color, unmarked, as are the eggs of other herons.

The Yellow-crowned Night Heron is a common summer resident, from February 19 to October 11, throughout Louisiana, but is less numerous in the northern part of the State, living in suitable swamps, bayous, and other water areas, both salt and fresh. It has been recorded north to Monroe and Caddo Parish; west to Atkins, Crichton, Natchitoches, Ged, and Black Bayou in Cameron Parish; south to Calcasieu Pass, Marsh Island, Bayou Salle, Grand Isle, Ronquille Bay, Southwest Pass and Pass a Loutre in the Mississippi River Delta; and east to Main Pass in the Mississippi River Delta, Venice, Bird Island southwest of Breton Island, Martin Island, Lake Catherine, Bains, and Thomastown. It is also a casual winter resident in at least the central southern part of the State. It breeds on the islands along the Gulf Coast and in swamps in the interior, frequently in colonies with other herons, from early April to early July; and there are records of eggs from April 16 to June 11.

Specimens were collected along the Harvey Canal in Jefferson Parish, March 11, 1900; in Cameron Parish, June, 1883; at Calcasieu Pass by G. Würdemann in the spring of 1854; south of Gueydan, March 23, 1926; Labadieville, May 28, 1919; young at Thibodaux, May 25, 28, and 29, 1919, all by E. R. Kalmbach; Lake Catherine, July 29, 1925, by C. C. Sperry; and Ged, June 11, 1930, by E. G. Wright.

Eggs in the United States National Museum were obtained in Cameron Parish by E. R. Kalmbach on April 30, 1919; and there are also eggs in the museum of Tulane University gathered on Marsh Island on an unknown date.

W. M. Sprinkle reported this species breeding on Martin Island, April 24, 1916, when there were eggs in the nests; and on Freemason Island, June 10, 1916, at which time all the eggs had hatched.

The writer noted the species on Bird Island, southwest of Breton Island, June 6, 1933; and in the Mississippi River Delta at Pilot Town, along Main Pass, Pass a Loutre, and Southwest Pass to Burrwood, June 7, 1933. He saw it on Ronquille Bay, June 8, 1933, where individuals were probably breeding in colonies of other herons; and on Bayou Salle in Terrebonne Parish, June 22, 1933; at Lottie in the cypress swamps, June 15, 1933; and at Romeville, June 14, 1933. H. H. Kopman considered it abundant at Thomastown, July 13 to 28, 1896; recorded its spring arrival at New Orleans, February 19, 1914; and observed it at Venice as late as October 11, 1917. Stanley C. Arthur said that it was breeding on June 18, 1918, at Black Bayou in Cameron Parish; and the writer noticed it at Crichton and Atkins in the northwestern part of the State on June 18, 1933; at Natchitoches, June 19, 1933; and at Monroe, June 17, 1933.

The only winter record consists of seven birds seen by the writer on Lake Felicity in Terrebonne Parish on December 23, 1932.

AMERICAN BITTERN

Botaurus lentiginosus (Montagu)

Of about the size of the night herons, the American Bittern is readily distinguished from them by its dark brown and buff streaking throughout, darker above, paler below. It is a widely distributed bird, occupying most of North America, and, on account of its rather seclusive habits, is probably more numerous than it appears. It is not gregarious like most of the herons, and is usually seen singly in its favorite habitat, which is the marshes and swamps of both the interior and the coast.

When disturbed it rather awkwardly takes wing, although in final flight it is very much like the other herons. Altogether it is rather a sluggish bird and may be seen chiefly amid the vegetation of its haunts, usually standing

motionless, or, at most, walking slowly about, hunting its food. It has the habit, particularly when it seeks to elude observation, of standing perfectly still, with its bill pointing upward, and its body compressed, so that, on account of its brown-striped coloration, it blends almost completely with the reeds or other vegetation of its habitat.

One of the most striking features of the Bittern's life history, and one that has brought it the most attention, is its vocal performance. Its notes sound very much like the noise of a pump, or of a mallet hitting a stake, and from these notes it has earned the names 'thunder pumper' and 'stake driver'. The strange movements that the bird makes in giving utterance to these sounds are most interesting to watch.

The American Bittern feeds almost entirely on animal matter, and it is not particular regarding the kind. It lives on frogs, small fishes, crawfishes, snakes, lizards, mice, mollusks, grasshoppers, and other insects.

It breeds in marshes or in wet meadows, and places its nest ordinarily amidst the cattails, rushes, or other vegetation, usually only a few inches above the ground or the water, in some cases on bare ground or in the grass of a meadow. The nest itself is a platform, usually poorly put together, or a small hole in the ground, lined with but little material. The material of the nest is flags, rushes, grasses, small sticks, or similar vegetation. Sometimes the bird makes a path to and from the nest, so that it can approach and leave without exciting too much interest on the part of its enemies. The commonly four or five eggs are of a buff color, unmarked. The young are hatched in about four weeks, and remain for some time in the nest, being fed on regurgitated food for much of this period by the adults, after the manner of many of the herons, the young seizing the bill of the adult crosswise, and subsequently receiving the food.

The American Bittern is a permanent resident, fairly common in winter from early October to May, rare in the

summer, throughout Louisiana wherever there are suitable marshes or other water areas. It has been reported north to Lake Providence, Prairie Mer Rouge, Bienville, and De Soto Parish; west to De Soto Parish and Cameron Parish; south to the southwestern part of Cameron Parish, Grand Chenier, Rainey Wild Life Sanctuary, Chenier au Tigre, Avery Island, and Venice in Plaquemines Parish; and east to Phoenix, Carlisle, Belair, New Orleans, Covington, Chef Menteur, and Madisonville.

It breeds at least occasionally in southern Louisiana, for A. M. Bailey found young just out of the nest on May 23, 1930, at Chenier au Tigre. George E. Beyer in 1891 reported its breeding at Madisonville; and J. Fairie collected it at Prairie Mer Rouge in the northeastern part of the State, in June, 1853.

A specimen in the museum of Tulane University was taken at Venice in Plaquemines Parish, January 30, 1900; another in the Chicago Academy of Sciences, by E. G. Wright at Avery Island, May 13, 1930. A single bird struck the Southwest Reef Lighthouse at the mouth of Atchafalaya Bay on April 21, 1907; and E. R. Kalmbach obtained individuals at Gueydan, August 27, 1925, and in Cameron Parish, May 10 and 14, 1919. Vernon Bailey found it in Cameron Parish, not uncommon, from January 6 to 13, 1926; and the writer noted it between the Orange-Cameron Land Company's club house and the Gulf of Mexico in southwestern Cameron Parish, January 24 to 27, 1928; also at Grand Chenier, December 31, 1932. H. H. Kopman reported it at Phoenix, October 23, 1917; at Carlisle, October 4 and 5, 1917; Belair, October 21, 1917; and Caernovan, April 16 to 18, 1918; and Andrew Allison at New Orleans, April 7, 1904. J. S. Campbell noticed it near Bienville during winter in 1931 and 1932; and L. E. Hicks at Lake Providence, December 22, 1931.

EASTERN LEAST BITTERN

Ixobrychus exilis exilis (Gmelin)

The Eastern Least Bittern much resembles its larger relative, the American Bittern, except for its black or

chestnut upper surface. It is a small bird, not much larger than a snipe, but in habits a heron.

It lives chiefly in the marshes of the coast, and the marshy borders of lakes, ponds, and streams. It is a bird of retiring habits and of rather awkward flight, which is usually not prolonged. It is seen usually singly, and apparently does not, under normal circumstances, gather into flocks. Although it is apparently not strong on the wing, it performs long migrations, since it leaves its home in Canada and the northern United States, and does not winter north of Florida.

The food of this bittern consists of frogs, fishes, lizards, leeches, snails, beetles, flies, other insects, and even occasionally small mammals and birds.

It builds its nest usually in the cattails or other vegetation of the marsh, in both fresh and salt water areas. The nest is placed in the vegetation, rarely high above the water, and constructed by making use of the tops of the grasses or rushes as a foundation, on which is placed a rather loose structure of reeds, grasses, or other marsh plants, sometimes twigs. The eggs are usually four or five, and of a greenish or bluish white. About two and one-half weeks are consumed in the hatching of the eggs, and the incubation duties are performed by both male and female. When the young are hatched they are fed by regurgitation, after the manner of the American Bittern. The young are able to climb about long before they are able to fly, using their feet to maintain their position on the reeds.

The Eastern Least Bittern is a summer resident, from March 11 to November 1, in practically all of Louisiana, chiefly the marshes and rice fields; locally common in southern Louisiana, less so in the northern part of the State, probably on account of the much smaller area of favorable habitat. It is reported north to Madison Parish, Monroe, Ruston, and Bienville; west to Cameron Farm 14 miles south of Vinton; south to Cameron Parish, Rainey Wild Life Sanctuary, Chenier au Tigre, Isle Derniere, Lake Pelto, Four Bayou in southern Terrebonne Parish, Grand Isle and

the mouth of the Mississippi River; and east to Junior, Phoenix, Savoie, Belair, New Orleans, Caernovan, Chef Menteur, Lake Catherine, Rigolets, Slidell, Madisonville, and Thomastown. It has been said to winter in southern Louisiana, but we can find no definite records. It breeds in the marshes and swamps from April to July; and there are records of eggs from April 18 to June 17; and of young able to fly, July 5.

The writer has seen specimens taken at Morgan City by Mrs. Ruth D. Svihla in 1925; at Bayou Couba in St. Charles Parish, April 21, 1898; and at New Orleans by Thomas D. Burleigh, July 6, 1935. Others not examined in the present connection were obtained at The Rigolets, March 11, 1870, by Henry W. Henshaw; in Cameron Parish, June 4, 1930; and Avery Island, June 13, 1930, by E. G. Wright; near Bienville, May 29, 1932, by J. S. Campbell; Lake Catherine, May 23, 1919; Gueydan, June 8 and 11, 1925, by E. R. Kalmbach; and Chenier au Tigre, July 19, 1925, by C. C. Sperry. There are eggs in the United States National Museum collected at Slidell, May 31, 1904, by Andrew Allison; at Belair, June 8, 1904, by the same ornithologist; and, in the museum of Tulane University, eggs from New Orleans, April 18, 1894, and from Plaquemines Parish, without date. George E. Beyer stated in 1891 that it bred at Madisonville; and H. H. Kopman observed it at Phoenix, September 15, 1917; Junior, August 4 and 5, 1917; Bayou Des Allemands, June 19 to 21, 1917; Savoie, April 14, 1918; and Caernovan, April 16 to 18, 1918; also at Thomastown, where he found several individuals in the marshy vegetation of one of the swampy lakes, July 13 to 28, 1896. George H. Lowery, Jr., says that it breeds commonly at Monroe, where he found young able to fly on July 5, 1932. E. R. Kalmbach regarded this bird common in the Gulf Coast area south of the rice belt, and also in the rice area south of Gueydan during the summer of 1925; and noted it also at Cameron Farm in Cameron Parish 14 miles south of Vinton in May, 1919. The writer met with it at Isle Derniere, on Lake Pelto, along Four Bayou, Little Go-to-Hell Bayou in southern Terrebonne Parish, and at Dulac, June 22, 1933; and on the Du-

pres Canal in Jefferson Parish, June 10, 1933. S. Ward collected it at Grand Isle, June 14 and 15, 1937; and George H. Lowery, Jr., on April 6, 1936; and J. W. Trahan listed it as breeding on the State Wild Life Refuge on the west side of Vermilion Bay in June, 1915. J. D. Figgins collected eggs on June 17, 1919, in Cameron Parish.

Family CICONIIDAE

WOOD IBIS

Mycteria americana Linnaeus

The Wood Ibis, or, as it is sometimes, and more properly, called, 'wood stork', is one of the most striking birds of the southern United States. Of large size, pure white in color, except for the black ends of its wings, and its dark unfeathered head, it is readily distinguished from any other white bird.

It lives in the swamps, bayous, and marshes of the coast, and of the interior of the southern United States. Its bare head has given it the name of 'flinthead', and its general appearance that of 'gannet', by which name it is known in some localities. On the marshes it may be seen on the wing flying in flocks to and from its feeding and breeding grounds, and its flight is one of the most remarkable of any of our large birds. Its large, powerful wings carry it easily aloft, and it soars for long distances, or circles higher and higher until completely out of sight. Sometimes it may be seen on the wing during migration, flying or soaring high in the air. At times this bird gathers into flocks of considerable size. On the edges of the marshes, about the pools, or in swamps, and along the wooded bayous, this bird may be seen, either perched on some dead tree, or standing in the water. It is wary and difficult of approach, and, when in flocks, usually has a sentinel to guard in case of danger. The adults are almost silent birds, although occasionally they utter a hoarse croak.

The food of this bird is sought in the marshes, sloughs, and shallow pools, and also on the mud flats of the coast. In feeding it walks about looking for its prey, and, in the

process, often drags the bill through the water or mud. Its food consists chiefly of fishes, frogs, snakes, young alligators, rats, small turtles, young grackles, worms, crabs, and similar water animals, crickets, beetles, dragonflies, and other insects; together with small quantities of vegetable food, such as seeds.

This bird breeds usually in colonies, placing its nests in the tops of tall cypress or other trees in the swamps, in sometimes inaccessible places, but occasionally in smaller trees on islands in lakes. The nest is a bulky structure, composed of sticks with but a relatively shallow depression for the eggs, with finer twigs and leaves for the lining. Some of the nests are rather flimsy, much more so than one would expect for so large a bird. Often many nests are located in the same tree. The eggs are usually three, creamy white, without markings. Notwithstanding the quiet, dignified behavior of the adults, the young, particularly as they increase in size, are very noisy, and the coming of an intruder near a colony is the signal for a rising din from the young birds.

The Wood Ibis is locally a fairly common permanent resident in southern Louisiana, and a regular summer visitor in northern Louisiana, at least from May to September; reported north to five miles east of Tallulah, Ouachita Parish, Big Creek near Vienna in Lincoln Parish, and Lake Bistineau; west to the marshes along the Sabine River in Cameron Parish; south to the Gulf Coast in southwestern Cameron Parish, Calcasieu Pass, Rainey Wild Life Sanctuary, and Main Pass in the Mississippi River Delta; and east to Lake Catherine, Bogue Chitto and Bedico rivers in St. Tammany Parish, Bayou Sara, Bains, Marksville, and Thomastown. It was formerly much more numerous than at the present time, and undoubtedly bred in the State, at least in the southern portion.

Stanley C. Arthur collected five individuals of this species in Cameron Parish on June 17, 1918. George E. Beyer¹⁸ records two nesting colonies of 40 birds each on the Bedico and Bogue Chitto rivers in St. Tammany Parish. It has also

¹⁸The Auk, Vol. XXV, No. 2, April, 1908, p. 174.

been said by Stanley C. Arthur to nest along Black Bayou in Cameron Parish, June 18, 1918, as well as in Avoyelles Parish. It is not certainly known now to be breeding in Louisiana. A. M. Bailey observed several flocks of Wood Ibises near the Gulf Coast in Cameron Parish, November 1, 1928; and found it common in the marshes along the Sabine River in the same parish in June, 1919, but saw none in 1930. H. H. Kopman reported in 1907 that it was common near Calcasieu Pass. J. S. Campbell considers it of regular occurrence in summer at Lake Bistineau; and George H. Lowery, Jr., observed a flock of 105 birds near Cameron on June 21, 1935. The writer saw a flock of 15 individuals of this species near Pointe a la Hache on the Mississippi River, January 21, 1932; and a single bird at Chateau Canard on Main Pass in the Mississippi River Delta, December 19, 1932. John James Audubon recorded it over 100 years ago from Bayou Sara; and Edward Butler observed 32 individuals at Bains, a locality not far from Bayou Sara, on April 10 and April 15, 1922. Specimens were collected by Ambrose Daigre at Lottie on August 20, 21, and 22, 1935. W. L. McAtee noted three on September 12, 1912, at Marks-ville; and George H. Lowery, Jr., considers it not uncommon in summer in Ouachita Parish. J. J. Kuhn saw a number of them in Madison Parish five miles east of Tallulah, September 28, 1933; and T. G. Davidson observed the bird on Big Creek six miles west of Vienna in Lincoln Parish in 1932. H. H. Kopman found it common about Thomastown from July 13 to 28, 1896.

Family THRESKIORNITHIDAE

EASTERN GLOSSY IBIS

Plegadis falcinellus falcinellus (Linnaeus)

The Eastern Glossy Ibis is a true ibis, some two feet in length and about three feet in extent of wings, and when adult of a rich, dark chestnut, with dark metallic green or purple wings and tail. In North America it breeds only in the Gulf States, although occasionally it has been found wandering farther northward.

It lives in the marshes and swamps along the rivers, bayous, and lagoons. In flight it is very similar to other ibises, and gathers at times into flocks, sometimes associated with other ibises.

This bird feeds chiefly on crawfishes, snakes, grasshoppers, cutworms, and other insects, from which diet, it may be assumed that the bird, so far as man is concerned, is beneficial.

This ibis places its nest usually in bushes, not far above the ground, and in colonies, sometimes of large size. The nest is constructed of twigs, rushes, and similar materials, with a rather shallow depression for the eggs. These are usually three or four in number, pale green and unmarked.

The Eastern Glossy Ibis is probably a permanent resident, fairly common locally, in the Gulf Coast region of southern Louisiana, from the Mississippi River Delta to Cameron Parish, although there are no certain winter records.

Owing to the difficulty in the field of distinguishing this species from the White-faced Glossy Ibis, there are comparatively few authentic data of its occurrence in Louisiana. E. R. Pike collected a specimen at Chateau Canard on Main Pass in the Mississippi River Delta on November 13, 1930, and three specimens on November 17, 1930, in the same locality. There is a specimen from New Orleans in the W. H. Ballou collection in the Chicago Academy of Sciences, but it possibly was obtained from a Chicago market. E. G. Holt found this ibis breeding in the coastal marshes of Cameron Parish, May 25, 1932, where he saw a considerable number of birds of this species nesting with Snowy Egrets, Louisiana Herons, American Egrets, and Black-crowned Night Herons, in a rookery in the marsh. At the time of his visit all of the eggs of the Eastern Glossy Ibis had hatched except for an occasional one that perhaps was infertile.¹⁹

¹⁹The Auk, Vol. L, No. 3, July, 1933, pp. 351-352.

WHITE-FACED GLOSSY IBIS

Plegadis guarauna (Linnaeus)

This ibis is very similar in appearance to the Glossy Ibis, being distinguished in the adults only by the presence of a broad white band on the forehead at the base of the bill.

It lives in the same kind of country, builds its nest in the marshes or swamps, and in habits is scarcely distinguishable from its close relative.

The White-faced Glossy Ibis is a locally common permanent resident in the coastal region of southern Louisiana, from the Gulf Coast east of the Mississippi River west to Cameron Parish, and north at least to Lake Charles. It nests in colonies of herons on the Gulf islands and also on the mainland.

The writer has examined an adult collected by A. M. Bailey at Chenier au Tigre, on May 2, 1927; and also an immature specimen, which is apparently this species, that was collected by George H. Lowery, Jr., at Lake Charles on July 31, 1933. A. M. Bailey found it common in large flocks at Chenier au Tigre, May 5, 1917, and January 15 to 21, 1919; and also on the Louisiana State Wild Life Refuge he saw ten on November 20, 1916. The writer discovered nearly 100 of these birds at Grand Chenier on December 30, 1932; also 26 on the Orange-Cameron Land Company's ranch, a short distance from the club house, January 25, 1928; and another bird northwest of the club house on January 27, 1928.

WHITE IBIS

Guara alba (Linnaeus)

Of pure white plumage, except for its black wing tips, with bright red bill and legs, long neck, and curved bill, and of about the size of the Glossy Ibis, the White Ibis is readily distinguished from all the other Louisiana birds.

Like herons and other ibises, it is fond of the marshes, swamps, lakes, and ponds of the river bottoms and inland lakes. The flights of this bird in the morning and evening

to and from its feeding grounds, its food habits on the oozy marshes, and its attitudes as it perches on logs or dead trees are attractive incidents in the life of this most interesting bird. The White Ibis is rather shy and difficult to study, but its habits are well worth the effort it takes to make their acquaintance. It sometimes gathers into flocks of considerable size, particularly when roosting, at times other than the breeding season.

It is fond of feeding along the shallow margins of lakes, ponds, and bayous, and even in the salt water marshes, in meadows, and wherever it can find its favorite food of crawfishes, crabs, snails, small fishes, snakes, grasshoppers, cutworms, and other insects.

Like many of the other ibises and herons it is not a noisy bird, but it has some rather low notes which it utters at times, and by some writers likened to the syllables 'croo', 'honk', or 'walla', each several times repeated.

The White Ibis nests in colonies, which are situated either in the mangroves of coastal islands, in fresh water lakes or marshes, or, if inland, in marshes, swamps, and river bottoms. The nests are ordinarily placed in bushes or trees, sometimes as many as 50 nests in a single tree, usually not very high above the water or the ground. The nests are composed of twigs and roots, and lined with reeds, some of them being little more than rude platforms, with a bare depression for the eggs. Sometimes these colonies contain the nests of such herons as the Black-crowned Night Heron, Louisiana Heron, Little Blue Heron, or Snowy Egret, showing that these birds fraternize freely. The eggs are usually four in number, bluish white or pale buff, and spotted with various shades of brown. The young are hatched in about three weeks, and after they are partly grown they climb readily about on the branches of the bushes or trees at the nest, sometimes traveling for a considerable distance. They seem to be easily alarmed at the presence of any strange appearance, and attempt to escape in this way.



WHITE IBIS (*Guara alba*).
Bird Island, below Tampa, Manatee County, Fla., May 14, 1934.
(Photograph by A. M. Bailey and F. R. Dickinson.)

The White Ibis is a rather rare permanent resident in southern Louisiana, from Cameron Parish, Avery Island, and New Orleans, north to Lake Pontchartrain, Bayou Sara, Lottie, and Toomey. It breeds in colonies with herons of various species, but only a few of such nesting groups now remain, for it is apparently much less numerous than formerly.

Robert Butler states that it breeds in West Feliciana Parish; and the writer saw 21 birds in a cypress swamp near Lottie on June 15, 1933. A. M. Bailey noted a few at Avery Island, April 27, 1917, and collected one specimen. He found also a few in Cameron Parish, June 16, 1919. A specimen in the museum of Tulane University was taken at Bayou St. John near New Orleans, September 29, 1888; and one in the Colorado Museum of Natural History by T. Huffman at Black Bayou in Cameron Parish, on June 29, 1920.

The writer has identified winter birds also in Tulane University, collected at New Orleans, December 16, 1893; others taken in Jefferson Parish, December 13 and 20, 1885; and at Toomey in Calcasieu Parish on February 18, 1895.

SCARLET IBIS

Guara rubra (Linnaeus)

The Scarlet Ibis is of only accidental occurrence in southern Louisiana.

The only accepted record is by John James Audubon,²⁰ who saw three birds at Bayou Sara on July 3, 1821.

Family PLATALEIDAE

ROSEATE SPOONBILL

Ajaia ajaja (Linnaeus)

This strikingly beautiful bird is scarcely to be confused with any other inhabitant of Louisiana. Some 30 to 35 inches in length, it is of sufficient size to be conspicuous even were it not for its beautiful deep pink plumage, which stands out whatever its surroundings. Its color has given

²⁰Ornith. Biog., Vol. V, 1839, p. 62.

rise to most of its names, and it is known popularly often as 'pink curlew', or simply 'pink bird'; and the spoon-like shape of the end of its bill has suggested the name by which it is most commonly called. While it has a wide distribution in South and Central America, it is confined in the United States mostly to the southern part of the eastern coast region, although it straggles occasionally even farther north.

Its preferred home is in the mangroves or other dense coastal thickets or low woods, and it formerly was a common bird in our semi-tropical Gulf Coast region. Today, however, owing to its persecution by man, it has greatly decreased, and only a few colonies now remain in the United States. Fortunately, however, these are receiving careful protection.

The flight of the Roseate Spoonbill is similar to that of other large heron-like birds, and is not swift, but rather deliberate, with slow wing-beats. Sometimes the birds move in flocks of various shapes, even in long lines, the individual birds with their necks fully extended forward and feet stretched out behind; and where the birds are numerous not infrequently in flocks of considerable size. Sometimes they sail without motion of the wings for at least a short distance. On the ground they move with slow, rather dignified steps, wading in the water in search of their food or walking on the land. They perch readily on trees or bushes, and seem to be at home in almost any situation. They have no conspicuous vocal performance, only a low grunt or croak that is not to be heard for any considerable distance.

The food of this bird, which it seeks chiefly along the margins of the shore, consists of various kinds of animals that live in the water, such as small fishes, insects, and crustaceans.

As with many similar birds, the nesting of the spoonbill is very much like that of herons and ibises. It breeds usually in colonies, even of considerable size, and the nests are placed in trees or bushes, on islands, in isolated areas on the

coastal prairies, or in almost inaccessible parts of vast coastal swamps, but almost always near water. For breeding purposes it to some extent associates with other birds, such as Anhingas, cormorants, herons, and ibises. Often the nests are difficult to reach, not only on account of the inaccessibility of the location, but by reason of the mud and water that often surround the breeding place, and the hordes of voracious mosquitoes that haunt these localities. The nests are usually not high from the ground, are made of sticks and lined with dead leaves, strips of bark, and other similar materials.

The eggs are about three or four in number, and their color is dull white with markings of brown. When the young are hatched they are not very handsome, but they are unusually colored, having a deep pink skin. They are helpless, however, and must be fed in the nest for a long time before they are able to leave and take care of themselves in the jungle. When very young they are fed by the regurgitation of food from the parent's bill, and the young obtain this food by inserting the bill into the throat of the parent bird, and thus taking out the food. One after another the youngsters in a nest are thus fed by their parents.

When the birds leave the nest in their first complete (juvenal) plumage they are mostly dull white, with very little tinge of pink, but later on they acquire the complete pink plumage.

This outstanding bird, wherever found, adds much to the landscape, and, since its haunts are usually places uninhabited, it enlivens the wilderness with color, in addition to its other attractiveness. It is sincerely to be hoped that present efforts to protect this bird will result in its preservation, not only for our own pleasure, but for future generations.

The Roseate Spoonbill is a rare permanent resident, less frequent in winter, in the Gulf Coast region of southwestern Louisiana, chiefly if not entirely in Cameron Parish; and of casual occurrence in summer, east to the Rainey Wild Life Sanctuary, Avery Island, and Bayou Sara; and in win-

ter to the Mississippi River below New Orleans. It is undoubtedly much less numerous than formerly. It breeds from May to August, and there are records of eggs from May 18 to June 2, and in August.

The two best known, and probably the only recent, breeding colonies of this species in Louisiana are those on Black Bayou in northwestern Cameron Parish, and on Bird Island in Cameron Parish 14 miles south of Vinton. A. M. Bailey stated that there were 90 birds nesting in 1919 in the Black Bayou colony, and that they had eggs in August. E. R. Kalmbach says that in 1918 there were 300 birds in this colony. There are eggs in the United States National Museum collected on Black Bayou in Cameron Parish, June 2, 1886, by R. E. Rachford. The colony on Bird Island has been occupied intermittently for a number of years, and has been visited by a number of ornithologists. There is undoubtedly but a relatively small number of birds at this colony, probably not over 100 pairs, and there seemingly is a considerable difference in the breeding dates from year to year. T. Gilbert Pearson reported that on May 18, 1920, there were 75 nests containing from three to five eggs, and that 87 birds were in evidence. The writer visited this colony on June 20, 1933, but saw neither birds nor occupied nests. Whether this indicates that the birds did not breed during this season, or that they returned later and reared their young has not been determined. George H. Lowery, Jr., reported 17 birds seen on June 10, 1935, on Johnson Bayou in Cameron Parish. The Roseate Spoonbill was reported as breeding at Bayou Sara by C. W. Beckham in 1887, but this is not substantiated by any definite data.

Specimens were taken at Calcasieu Pass in the spring of 1854 by G. Würdemann; elsewhere in Cameron Parish on June 20, 1883, by an unknown collector; and at Black Bayou on June 20 and August 5, 1919, by T. Huffman. H. H. Kopman found the species common near Calcasieu Pass in 1907. A. M. Bailey saw a few individuals during the summer months at Avery Island, and two at the same locality on April 27, 1917. Three birds were discovered by E. S. Hopkins on the Rainey Wild Life Sanctuary, June 5, 1925. Two

wanderers were shot in December, 1884, on the Mississippi River about five miles below New Orleans, and were recorded by George E. Beyer.²¹

Family PHOENICOPTERIDAE

AMERICAN FLAMINGO

Phoenicopterus ruber Linnaeus

The American Flamingo, though several times recorded from Louisiana, has usually been mistaken for some other species such as the Roseate Spoonbill or the Wood Ibis. It is apparently only an accidental wanderer to the State. The only definite authentic record is a single bird seen by W. L. McAtee at Cameron on the Calcasieu River near its mouth in Cameron Parish on December 6, 1910.²²

Order ANSERIFORMES

Family ANATIDAE

WHISTLING SWAN

Cygnus columbianus (Ord)

The Whistling Swan is a rare winter visitor in the Gulf Coast region of Louisiana, from the Mississippi River Delta to Cameron Parish; and a transient elsewhere in the State. It was in former years apparently much more numerous than at the present time. There are very few definite records of this species in Louisiana.

A single bird was collected by W. L. McAtee at Cameron, November 30, 1910; and one was obtained by Winston E. Nolan from a flock of three on Main Pass in the Mississippi River Delta on January 15, 1933.

TRUMPETER SWAN

Cygnus buccinator Richardson

The Trumpeter Swan was formerly perhaps a fairly common winter resident, at least in the Gulf Coast region of Louisiana, but it no longer occurs in the State.

²¹Proc. La. Soc. Naturalists, for 1897-1899 (1900), p. 91.

²²The Auk, Vol. XXVIII, No. 2, April, 1911, p. 274.

Apparently the only tangible records for this area are as follows: George E. Beyer, Andrew Allison, and H. H. Kopman say that it has occurred off the mouth of the Mississippi River.²³ One bird was seen and photographed by Stanley C. Arthur on the State Wild Life Refuge near Avery Island, January 7, 1915. Another was seen on Belle Isle Lake in November, 1914, by T. Gilbert Pearson and others. This bird was later shot by a fisherman and identified by Stanley C. Arthur as of this species.²⁴

COMMON CANADA GOOSE

Branta canadensis canadensis (Linnaeus)

Perhaps no one of our North American waterfowl is better known than is the Canada Goose. It ranges throughout the United States and in some of its forms north to the Arctic coast. It is one of the very earliest birds to appear in the spring in those localities where it does not spend the winter.

The Common Canada Goose is one of our largest waterfowl, dark brown above, brownish white below, with a black neck and a large white patch on each side of the head, so that it is easily distinguished from any of the other geese.

It frequents streams, lakes, and other bodies of water, the coastal bays and inlets, marshes, meadows, and similar areas. It is fond of the shores of rivers, where it often seeks sand or gravel to aid its digestion. It gathers at times into large flocks, either for purposes of roosting or flying. Its migratory movements are performed either by day or by night, and the birds move frequently in relatively small companies, often in triangular formation. Its wingbeats are not particularly rapid, and the bird seems not to move fast, but it is capable of at least 60 miles per hour in the air.

The voice of this bird is the well known 'honk' that in the early spring betokens the approach of the flights of geese.

²³The Auk, Vol. XXIV, No. 3, July, 1907, p. 321.

²⁴Pearson, Circ. Nat. Asso. Aud. Soc., No. 11, February 15, 1928, p. 6.

The diet of the Canada Goose is varied, depending on season and locality. It is very fond of various kinds of vegetable food, such as grain, various kinds of grasses and water plants, such as eelgrass and various seaweeds. It takes chiefly the leaves and tender shoots of young grain, and the leaves and stems of grasses, preferably when young. It eats also various kinds of animal food, such as insects, snails, and crustaceans. Like many of the ducks it feeds by tipping up and reaching down to the bottom to obtain water plants or aquatic animals.

The nest of this goose is situated in more or less marshy areas, or on dry, even rocky land, sometimes in close proximity to colonies of other water birds like gulls and cormorants. The nest is on the ground, sometimes merely a slight depression containing only a few weeds, straws, and sticks, with a lining of down. When the nest is placed in a marsh in the reeds it is usually more bulky and sometimes of considerable size, with a good hollow in the center for the reception of the eggs. The materials under these circumstances are usually the marsh vegetation of the immediate vicinity, such as rushes, canes, grasses, and similar plants. The eggs are usually five or six, dull or creamy white, unspotted, but often becoming much nest stained as incubation progresses. It takes about four weeks to hatch the eggs, which is the duty of the female, but the male guards the nest and his mate, and is very greatly attached to his home. Under normal circumstances this bird mates for life. The young are well taken care of by the parents until they are fully able to take care of themselves.

The Common Canada Goose is a common winter resident, from the last of September to April 22, accidentally to June 20, in the Gulf Coast region of Louisiana; from Gum Cove in southwestern Cameron Parish, Grand Chenier, the State Wild Life Refuge, Chenier au Tigre, and the mouth of the Mississippi River; north to Catahoula Lake, Lake Providence, and the Mississippi River in the northeastern part of the State; and a transient in most of the remainder of Lou-

isiana. It frequents the streams and lakes of the interior, together with the waters and prairies of the Gulf Coast region, flocking separately or associated with other geese, usually in rather small groups.

It was taken at Cameron, November 29, 1910, at Gum Cove, January 2, 3, and 4, 1911, and at Gueydan, February 15, 1910, by W. L. McAtee; and at Pilot Town in the Mississippi River Delta, January 30, 1929, by Joseph Leiter. Arthur Svihla noted a flock at Leedyburg on January 3, 1926; and the writer saw a small number at Grand Chenier, December 31, 1932; also at Calcasieu Lake, December 30 and 31, 1932. A few were noted by the writer near the club house of the Orange-Cameron Land Company's ranch in southwestern Cameron Parish, January 25 and 27, 1928; and Eugene M. Boring reported 150 individuals on the McIlhenny Bird Refuge at Avery Island, November 5, 1932. Ned Hollister saw a single bird at Bear Lake eight miles northwest of Tallulah, March 1, 1904. In the Mississippi River Delta it was obtained at Quarantine (Cubit's Gap) by E. B. Cognevich in November, 1911; and the writer found it in small numbers there on Willow Pass, December 20, 1932, and on Main Pass, December 19, 1932. Mr. George H. Lowery, Jr., saw a single adult in the marsh at Grand Chenier on June 20, 1935.

The writer has examined eight specimens of this form of the Canada Goose from Cameron Farm south of Vinton, collected by A. M. Bailey on December 16 and 22, 1917, February 25, 1919, and in January, 1919.

LESSER CANADA GOOSE

Branta canadensis leucopareia (Brandt)

The Lesser Canada Goose is a rather uncommon, sometimes locally common, winter resident, observed from November 30 to January 13, probably for the most part in the Gulf Coast region of Louisiana; and probably also a transient in the interior. There are very few definite Louisiana records.

W. L. McAtee collected a specimen at Gum Cove in southwestern Cameron Parish, January 2, 1911, where he found this goose common at that time. Vernon Bailey noted this bird about the lakes in Cameron Parish, January 7 to 13, 1926, in flocks with the larger Common Canada Goose. It was reported also on the Louisiana State Wild Life Refuge near Abbeville, November 30, 1916, by J. W. Trahan.

The writer has seen two specimens taken by A. M. Bailey at Cameron Farm, in Cameron Parish, on December 20 and 22, 1917.

HUTCHINS GOOSE

Branta canadensis hutchinsii (Richardson)

The Hutchins Goose is a winter visitor, possibly not uncommon, on the Gulf Coast prairies of at least southwestern Louisiana.

The only definite record, however, is a specimen obtained by C. C. Leedy on November 3, 1929, at the Orange-Cameron Land Company's ranch in Cameron Parish.²⁵

AMERICAN WHITE-FRONTED GOOSE

Anser albifrons gambelli Hartlaub

This bird, while in general not so numerous as some of the other geese, is yet in some localities a familiar bird to sportsmen. It is known often by the name 'speckled belly', or even 'brant', although the latter name is more frequently applied to the Snow Goose. In its two forms it is found over a large part of North America, from Greenland to Alaska in the summer, and from California to the coast of the Gulf of Mexico in the winter, as well as south into Mexico. In general appearance it is a brown bird with a white forehead, and light under parts with large black spots, which make it conspicuous in the field. The young birds, however, have little or no black below.

In flight the White-fronted Goose is very similar to some of the other geese, though perhaps not quite so heavy

²⁵Bull. La. Dept. Cons., No. 20, December, 1931, p. 116.

on the wing as is the Canada Goose. It occurs often in flocks, sometimes of large size, and frequents marshy areas, wet meadows, sometimes coastal waters, streams, and lakes.

The note of this goose is so different from most of the other geese that it has suggested the name 'laughing goose'. This is composed of several repetitions of the syllable 'wah'.

It feeds on various kinds of marsh vegetation, wild berries, and often on waste grain in the fields, as well as on the young stalks of growing plants. Sometimes it eats also acorns and other mast, and occasionally snails.

This goose breeds on the barren grounds of the far north, and places its nest usually on the ground in a grassy place near a lake or other body of water. It consists chiefly of a hole in the ground, with a little lining of moss or various kinds of grasses, lichens, and leaves, and lined with much down and some feathers. The eggs are normally five or six, buff or dull white, without markings.

The American White-fronted Goose is a fairly common winter resident, from September to April 6, in the Gulf Coast region of Louisiana, from the Mississippi River to Chenier au Tigre and Cameron Parish, north to Lake Arthur and New Orleans; and chiefly, if not entirely, a transient elsewhere in the State. It associates with other geese on the prairies and marshes, usually those that are not salt.

Louisiana specimens of White-fronted Geese in the museum of the Chicago Academy of Sciences, collected by A. M. Bailey are nearer the present than to the smaller European race. They are from Cameron Parish, November 1, 1928; and Pilot Town, October 24, 1928. Similar are others from Cameron Farm, obtained by Mr. Bailey on December 17, 18, 19, 21, and 22, 1917. E. L. Schiöler²⁶ records *Anser albifrons gambelli* from Louisiana on the basis of specimens examined from Lake Arthur, taken, March 1, 1907, and from Louisiana without further locality, collected, January 6, 1905, and January 15, 1908.

²⁶Danmarks Fugle, Vol. I, 1925, p. 446.

A specimen of this species from Lake Arthur, taken, March 1, 1905, is in the Florida State Museum. This goose was collected also at Cameron, November 29, 1910, and at Gum Cove in southwestern Cameron Parish, January 2, 1911, by W. L. McAtee. The writer found a small number of American White-fronted Geese on Timbalier Bay, December 23, 1932; a single individual on Willow Pass in the Mississippi River Delta, December 20, 1932; and W. L. McAtee collected several on Main Pass, January 31 and February 1, 1910.

So far as determinable from all the material examined, there is record of only a single race of the White-fronted Goose in Louisiana. All the certainly identifiable occurrences refer to the so called 'tule' goose, formerly and now more appropriately known as the American White-fronted Goose.

LESSER SNOW GOOSE

Chen hyperborea hyperborea (Pallas)

The Lesser Snow Goose is about the size of a small Canada Goose. It is one of the few North American birds that is practically all white, since only the ends of the wings are black.

So far as its breeding range is concerned, it is a bird of the Arctic regions, where it is commonly called 'wavy', but it migrates south to the southern United States and to Mexico to winter. Great numbers pass the winter on the coasts of Louisiana and Texas, where they associate with the Blue Goose. In winter and during migration this goose lives either along the shore in the marshes, whither it resorts chiefly for the purpose of feeding, or on the prairies and meadows of the higher ground. When on the wing it moves not so much in V-shaped flocks as do the Canada geese, and some of the other kinds, but in more or less irregular flocks, and often in long diagonal lines. At times, particularly in winter, it gathers into enormous flocks of many thousands, which frequent the marshes or prairies for the purpose of feeding; and the rising of such a flock is

one of the most magnificent sights of bird life. Its note is a rather harsh 'honk', and the bird is, at times, even on the wing, rather noisy.

The food of this goose consists mostly of grasses, grains, and berries, which it obtains in the meadows, uplands, or marshes. It is fond of the roots and succulent parts of water plants. It feeds also on insects, mollusks, and various kinds of invertebrates.

The nest is placed in a depression on the ground; is composed of various kinds of vegetation, and lined with down. The usually five to seven eggs are dull white, unmarked, and are hatched in about four weeks. The buffy youngsters are carefully cared for by their parents until they are able to fly.

The Lesser Snow Goose is a common winter resident, from October 5 to March 8, on the prairies and marshes of the Gulf Coast region of southern Louisiana, from the Mississippi River Delta to Marsh Island, Chenier au Tigre, and southwestern Cameron Parish, more numerous in southwestern Louisiana than elsewhere; and north at least to Freshwater Bayou in Calcasieu Parish, Calcasieu Lake, and Avoca Island; less commonly to Lake Providence; also a transient, not common, in central and northern Louisiana, chiefly in the Mississippi River valley. In winter along the coast it occurs almost entirely associated with the Blue Goose. In the interior it frequents the lakes and larger streams.

Specimens of this goose were taken at Freshwater Bayou in Calcasieu Parish on January 12, 1894; by Wharton Huber at Chenier au Tigre, January 12, 14, 15, 18, 23, and 28, 1928; and by A. M. Bailey, December 13, 1925; also by A. M. Bailey in Cameron Parish, November 1, 1928; by Joseph Leiter at Chateau Canard on Main Pass in the Mississippi River Delta; and at Quarantine (Pilot Town), January 15, 1928; by Eugene R. Pike at Quarantine, February 1, 1928; by W. L. McAtee at Gum Cove, January 2, 1911, and at Cameron, November 28, 29, and 30, 1910, and December 2, 1910. Arthur Svihla noted it in considerable numbers at Leedy-

burg in southwestern Cameron Parish, January 2, 1926. L. E. Hicks observed two individuals at Lake Providence on December 22, 1931. The writer saw 600 individuals between the club house of the Orange-Cameron Land Company and the beach of the Gulf of Mexico, January 26, 1928. In the same general locality it was observed in small numbers, January 24, 25, and 27 of the same year. He found it also at Calcasieu Lake, December 30, 1932; Grand Chenier, December 31, 1932; on the Rainey Wild Life Sanctuary, January 22, 1928; and eight individuals at Avoca Island, January 27, 1932. In the Mississippi River Delta it was common though not present in very large numbers, and he saw never more than 400 in a locality during the winters of 1928 and 1932. He met with it on Codro Pass and Cognovich Pass, December 18, 1932; and Johnson Pass, December 17, 1932. It seemed to be most numerous on Main Pass, where he counted 376 on December 19, 1932; and on Dead Woman Pass, where he discovered about the same number, December 18, 1932. It was noticed also on Octave Pass, January 22, 1932; on Gasper Pass, December 19, 1932; and on Willow Pass, December 20, 1932. While in this region it is not infrequently observed flying over the more interior localities, its main habitat is the flats and marshes bordering the various passes near their mouths in the Gulf of Mexico.

BLUE GOOSE

Chen caerulescens (Linnaeus)

For many years the Blue Goose was commonly considered a variety of the Lesser Snow Goose, but it is now known to be a distinct species. It differs materially from the Lesser Snow Goose in having a slaty blue plumage with only the head and neck white. It is thus a conspicuous and handsome goose which is easily distinguished from all the other kinds, although of about the same size as the Lesser Snow Goose.

In flight it is very similar to the Lesser Snow Goose. While, at times, particularly on migration, it associates largely with its own kind, gathering into enormous flocks

on the coasts of Louisiana and Texas in the winter; yet, particularly in the Missouri Valley and central southern Canada, on the northward migration in the spring, it is more or less commonly associated with the Lesser Snow Goose. On its breeding ground, also, it nests in colonies with that species. Its voice is very similar to that of the Lesser Snow Goose.

Its feeding habits on the coasts of Louisiana and Texas are such that it becomes a very important matter to preserve the marshes if we are to save the winter home of this goose. The bird lives on various kinds of marsh plants such as cattails, Johnson grass, and goose grass; and so extensive is their use of these plants for food that they often entirely remove this vegetation from large areas. They eat not only the tops, but also the roots of the plants.

Until recent years the nest of the Blue Goose remained a mystery, but it has recently been found not only on Baffin Island, but on Southampton Island in the American Arctic regions. The bird builds its nest on the ground in more or less scattered colonies. The bulky nest is composed of moss and similar materials, and lined with down. The usually three to four eggs are dull white.

The Blue Goose is an abundant winter resident, from October 5 to May 19, on the islands, prairies, and marshes along the Gulf Coast of Louisiana, from The Rigolets and Chandeleur Island west to the mouth of the Mississippi River, Vermilion Bay, Grand Chenier, Chenier au Tigre, and the Sabine River near the Gulf of Mexico in Cameron Parish; also a transient in the valley of the Mississippi River north to northeastern Louisiana, and casually west to Lake Bistineau. It ranges and feeds in flocks up to at least 40,000, chiefly in the Mississippi River Delta and west to Cameron Parish, but it does not winter far inland from the coast. It is the most abundant goose in Louisiana, and probably much the greater portion of the species winters in this State, almost always associated with the Lesser Snow Goose.

A. M. Bailey collected specimens of the Blue Goose in Cameron Parish, November 1, 1928, and at Pilot Town, October 25, 1928; Joseph Leiter, at Chateau Canard, November 13, 1928, and January 30, 1930; A. K. Fisher shot two birds from a flock at Chef Menteur on November 2, 1919; and E. B. Cognevich obtained this species at Triumph in Plaquemines Parish in March, 1910. Large flocks up to thousands were seen by W. W. Bayly at North Chandeleur Island, November 2, December 2 and 13, 1921, and January 31, 1922; and J. E. Bishop reported small flocks of Blue Geese flying over The Rigolets at Long Point Light Station, between October 25 and December 1, 1922. In the Mississippi River Delta this species occupies chiefly the flats and marshy prairies at the mouths of the various passes near or on the Gulf of Mexico; and probably in this general locality there occurs the greatest Louisiana concentration of these geese, at least this was the case in 1932. At the mouth of Octave Pass on January 22, 1932, the writer saw 30,000 Blue Geese; and also smaller numbers on Willow Pass, December 20, Gasper Pass, December 19, and Dead Woman Pass, December 18 of the same year. It was likewise abundant on Main Pass, December 19 and 20, 1932, and January 22, 1932; on Codro Pass and Cognovich Pass, December 18, 1932; on Dennis Pass, Johnson Pass, and Pass a Loutre, December 17, 1932. Along the lower Mississippi River from the State Public Shooting Grounds up to near Ostrica, the writer also noted a few birds, practically all on the wing, January 23, 1932. He found this species abundant on the Rainey Wild Life Sanctuary, January 22 and 23, 1928; at Grand Chenier, December 31, 1932; and Calcasieu Lake, December 30, 1932. W. L. McAtee collected specimens on Little Vermilion Bay, February 23, 1910, and at Cameron, November 30 and December 3, 1910; and the writer noted a few individuals near Mud Lake in the southwestern part of Cameron Parish, January 26, 1928. J. S. Campbell reported a single bird shot by a hunter on Lake Bistineau, October 18, 1933.

ROSS GOOSE

Exanthemops rossii (Cassin)²⁷

The Ross Goose is a casual winter visitor in the Gulf Coast region of southern Louisiana.

The only definite records are a single specimen taken by W. L. McAtee, February 23, 1910, on the shore of Little Vermilion Bay near the mouth of the Vermilion River; and one killed in Cameron Parish in 1916, by J. A. Carruthers. A report of one supposed to have been captured by Dudley Berwick,²⁸ is evidently a mistake, since Mr. Berwick writes that he has had no specimen of this goose.

FULVOUS TREE-DUCK

Dendrocygna bicolor helva Wetmore and Peters

The Fulvous Tree-duck is fairly common, but of very irregular and local occurrence, in summer, autumn, winter, and spring in southern Louisiana, from The Rigolets to Cameron Parish, and north to New Orleans and Lake Catherine. It possibly breeds in the State, but the writer has been able to discover no definite record of nesting.

George E. Beyer states that several large flocks appeared on Lake Catherine during October, 1892, when a number of birds were shot, and that it was again taken in January, 1900, at The Rigolets.²⁹ J. W. Trahan reported it from the State Wild Life Refuge, November 30, 1916; and one bird is recorded from New Orleans, January 22, 1870, by an anonymous author. Mrs. Bruce Reid observed it along the lower Sabine River near Lake Sabine in the summer of 1933. Ambrose Daigre informs the writer that two males and a female were captured on Dennis Pass, Mississippi River Delta, on November 2, 1934. A. M. Bailey registered this duck from Chenier au Tigre as abundant during the winter of 1925, as observed on May 6, 1917, and says that five specimens were taken there on December 8 and 11, 1925. He also noted a few individuals during the spring of 1918

²⁷*Oren rossii* of the 1931 A. O. U. Check-List.

²⁸Bull. La. Dept. Cons., No. 20, December, 1931, p. 126.

²⁹Proc. La. Soc. Naturalists, for 1897-1899 (1900), p. 90.



MALLARDS (*Anas platyrhynchos platyrhynchos*) AND A FEW OTHER DUCKS.
Rainey Wild Life Sanctuary, La., January 1, 1934.
(Photograph by A. M. Bailey and F. R. Dickinson.)



NEST AND EGGS OF MOTTLED DUCK (*Anas fulvigula maculosa*).
Chenier au Tigre, La., May 20, 1930.
(Photograph by A. M. Bailey.)

in the same locality. T. Gilbert Pearson chronicled it as seen in early autumn on the Rainey Wild Life Sanctuary. In addition, individuals are said to have been killed in Cameron, St. Mary, and Terrebonne parishes, and at the mouth of the Mississippi River.³⁰

COMMON MALLARD

Anas platyrhynchos platyrhynchos Linnaeus³¹

Familiar as the ancestor of most of our domestic ducks, the Mallard is probably the best known of all the species of our wild ducks. It breeds over much of North America, Europe, and Asia, and it is, therefore, one of the most widely distributed of all ducks. It is one of the early birds to push northward in the spring migration, and is a favorite with sportsmen almost everywhere. One of the most important parts of its range, so far as migration and winter are concerned, is the Mississippi Valley, where it is one of the two most abundant ducks, the other being the Pintail. Here, in some of the swamps, marshes, and lakes, which it loves to frequent, it is present in almost unbelievable numbers, although it is not so abundant as in former years, notwithstanding that it is one of the ducks that have suffered least from recent adverse conditions.

It is found everywhere within its range where there are suitable ponds, lakes, streams, or other bodies of water, but one of its favorite resorts is a wooded swamp where the ground is covered with water, and where there is both protection and food. This duck is a wary and active bird, and has a powerful and well sustained flight. When rising from the water it springs upward like the Black Duck, and so powerful are its wings that it does not need to patter along the surface of the water, as do some of the other ducks, in order to launch itself into the air. It flies often in V-shaped flocks, and when resting it gathers at times into companies of great size; and it migrates either by day or by night. It frequently associates with other species of

³⁰Bull. La. Dept. Cons., No. 20, December, 1931, p. 127.

³¹*Anas platyrhynchos platyrhynchos* of the 1931 A. O. U. Check-List.

ducks in mixed flocks or, at times, keeps more or less to itself. The note of the Mallard is a not unmusical 'quack' of rather characteristic quality.

The food of the Mallard is almost all of vegetable character, and comprises the seeds, leaves, and other parts of such plants as grasses, duckweeds, pondweeds, smartweeds, duck potatoes, wild celery, rushes, and willows. The relatively small part of its food that it derives from animals consists of insects, mollusks, crustaceans, and small fishes. The Mallard is one of the ducks that regularly feed in woodlands or on dry areas, such as forests, grain fields, and similar places, where it obtains acorns or grain.

The nest of the Mallard is placed commonly in a dry situation, either about the margin of a lake or slough, or on the dry prairie, meadow, or even sandhill, sometimes at a great distance from water. The nest is composed of various kinds of vegetable matter, such as grasses, reeds, and rushes, and is lined with finer materials of this kind, feathers, and down from the breast of the female. The eight to ten eggs are large, and pale greenish, pale buff, or white. The female, without assistance from the male, incubates the eggs, which process is completed in usually a little less than four weeks. Like most of the other ducks, the pretty downy young are ready to swim as soon as they are dry after hatching, and the female takes unusually good care of them until they are able to look out for themselves. When a brood is threatened with danger the female in charge of them always attempts to distract the attention of an intruder to herself so that the young can escape.

The Common Mallard is a winter resident, from October 1 to May 6, throughout Louisiana, abundant in the southern part of the State, common in northern Louisiana; and reported north to Lake Providence, West Carroll Parish, Monroe, and Bienville; west to Shreveport, Logansport, Vinton, and southwestern Cameron Parish; south to Gum Cove in southwestern Cameron Parish, Mud Lake, Cameron, Calcasieu Lake, Pecan Island, Grand Chenier, Tiger Island, Chenier au Tigre, Marsh Island, East Cote Blanche Bay,

Wax Lake Pass, Atchafalaya Bay, Timbalier Bay, and Port Eads; and east to Main Pass in the Mississippi River Delta, Hog Island, Battledore Island, Breton Island, Errol Island, Freemason Island, Mitchell Island, Brush Island, Lake Borgne, Chef Menteur, Lake Catherine, Baton Rouge, New Roads, Tallulah, and East Carroll Parish. It is credited with breeding in this State, but the writer has been able to find no definite record. It is probably the most abundant duck in the State, and is generally distributed from the very edge of the marshes on the salt water of the Gulf of Mexico to the lakes, ponds, wooded swamps, and marshes of the interior.

Several birds were killed at Quarantine, (Pilot Town), November 22, 1925, and January 16, 1926, by C. S. Harris. Many specimens of the Mallard were collected at Long Lake near Hamburg Bay by P. A. Conlon from November 12, 1910, to March 6, 1911; by A. A. Rabalais at Mansura in Avoyelles Parish, October 22, 1911, December 9, 1910, January 5, 1913, and February 10, 1911; by R. Mattason at Bordelonville, October 28 and November 5, 1911; and at Moreauville, November 11, 1911, December 28, 1911, January 5, 1912, and February 9, 1912. W. L. McAtee obtained it at Gum Cove, January 2, 3, and 4, 1911; and at Cameron, November 29 and 30, 1910; Joseph Leiter at Chateau Canard on Main Pass, Mississippi Delta, January 30, 1930; Wharton Huber at Chenier au Tigre January 31, 1928; A. M. Bailey at Avery Island, May 6, 1917; and Winston E. Nolan at Gueydan on February 23, 1937.

W. M. Sprinkle reported it common on Hog Island, December 11, 1913; Battledore Island, December 10, 1913; Breton Island, November 28, 1916; Errol Island, March 20, 1913; Chandeleur Island, January 12, 1916; Freemason Island, January 18, 1913; Mitchell Island, January 12, 1914; and Brush Island, November 10, 1914. In the Mississippi River Delta this species is abundant throughout the marshes and even to the mouths of the various passes of the Mississippi River. The writer found it on Main Pass, December 19, 1932; on Octave Pass and Gasper Pass, January 19, 1928; Codro Pass, Dennis Pass, and Cognovich Pass, December 18, 1932; Pass a Loutre and Johnson Pass, Decem-

ber 17, 1932; and along the lower Mississippi River from the State Public Shooting Grounds north to near Ostrica, January 23, 1932.

J. S. Campbell considers it a common winter visitor about Bienville, from October 10 to May 4. H. H. Kopman regarded it as common on False River near New Roads, December 15, 1917; and Eugene M. Boring at Lake Catherine, November 20, 1932. The writer found it common at Timbalier Bay, Lake Felicity, Deep Lake, Drum Lake (Lake Tambour), Little Lake, and Lake Barre, December 23, 1932; on Bayou Des Allemands and Mud Lake near Des Allemands, December 24, 1932; on Atchafalaya Bay and East Cote Blanche Bay, January 29, 1932; Wax Lake, Wax Lake Pass, Avery Island, and Avoca Island, January 28, 1932; at Marsh Island and West Cote Blanche Bay, January 30, 1932; on the Rainey Wild Life Sanctuary, January 23, 1928; the lower Vermilion River, January 30, 1932; Grand Chenier and Calcasieu Lake, December 30 and 31, 1932; Mud Lake in southwestern Cameron Parish, January 26, 1928; at the club house of the Orange-Cameron Land Company, January 25, 26, and 27, 1928; and on Black Bayou in northwestern Cameron Parish, January 24, 1928. Arthur Svihla detected it at Leedyburg in southwestern Cameron Parish, January 1, 1926; and Ned Hollister noted it abundant in Morehouse, West Carroll, East Carroll, and Madison parishes, February 11 to March 20, 1904; and he flushed flocks of this bird from the wet woodlands where they were feeding on the mast. Every morning and evening, from February 17 to March 6, 1904, he saw large numbers flying over his Bear Lake Camp.

A male hybrid between the Common Mallard and the American Pintail was shot at Avoca Island, November 24, 1935, by J. T. Upton.

RED-LEGGED BLACK DUCK

Anas rubripes rubripes Brewster

This is one of the best known ducks in the eastern part of the United States, and in many places is a favorite with

sportsmen. It is sometimes known as 'dusky duck,' or 'black mallard', due to the fact that at a distance the bird appears black, although it is really dark brown, and in appearance very much like the female of the Mallard, but there is very little or no difference between the sexes. It may readily be distinguished from the Mallard in that it does not have the conspicuous white wing-bars that are present in the latter bird.

In coastal areas the Red-legged Black Duck is very fond of the marshes, inlets, and lagoons, and it often is found on the wide open expanses of water like Chesapeake Bay, or even on the water of the ocean, along the coast. In the interior it frequents the marshes, lakes, and sloughs, very much as the Mallard, with which it regularly associates. At times, along the Atlantic Coast, it gathers into flocks of large size, but it is not an abundant bird in the Mississippi Valley. In flight and general appearance it is much like a Mallard, and like it is strong on the wing, springing from the water at a single bound.

Like the Mallard, it is not primarily a diving bird, although it can dive well when necessary. It feeds in shallow water, by dabbling or tipping up along the shore, and obtains its food from the bottom of the water, where it pulls from the mud the vegetation or water animals on which it feeds. The food consists largely of seeds, leaves, and roots of various kinds of water plants, such as grasses and sedges; of snails, worms, small frogs, salamanders, and aquatic insects. At times the bird resorts to fields of grain, such as buckwheat, barley, wheat, corn, and rice; or eats berries, such as blueberries and huckleberries.

This duck breeds in swamps or grassy meadows, in thickets, or in almost any similar places, but usually on dry ground. The nest is placed in a depression on the ground, usually well concealed by the surrounding vegetation, composed of grasses and leaves of various kinds of plants, and lined with finer materials of the same kinds, with a small quantity of down. The usually eight to ten eggs are very much like those of the Mallard, being white or pale greenish

buff. The young hatch in about four weeks or less, and they are soon led away from the nest by the female and cared for almost exclusively by her until they are able to fly. As with the Mallard and many other ducks, the female is very devoted to her young.

The Red-legged Black Duck, a northern bird, is a fairly common winter resident, recorded from October 15 to February 21, chiefly in southern Louisiana, but also in the northern part of the State; but most of the records are unidentifiable subspecifically. The species as a whole has been reported north to Lake Providence, Oak Grove in West Carroll Parish, Monroe, and Lake Bistineau; west to Cameron Parish; south to southwestern Cameron Parish, Jackson Bayou in Cameron Parish, Cameron, Belle Isle, Gueydan, Chenier au Tigre, Lake Felicity, Little Lake, Golden Meadow in La Fourche Parish, and the Mississippi River Delta; and east to Chandeleur Island, St. Bernard Parish, The Rigolets, and Lake Providence.

Owing to the lack of sufficient specimens it is not possible now to determine the relative frequency of the two subspecies of the Black Duck. Both, however, certainly occur in Louisiana. All the subspecifically unidentified sight records of northern black ducks here used are placed under the Red-legged Black Duck, although without much doubt, some of these records probably refer to the Common Black Duck.

Specimens of *Anas rubripes rubripes* have been examined by the writer, from Octave Pass in the Mississippi River Delta, taken, February 3, 1911, by A. K. Fisher; from Cubit's Gap (Pilot Town), February 28, 1911, by G. T. Smith; Belle Isle, March 2, 1910, W. L. McAtee; Chenier au Tigre, January 4, 1934, A. M. Bailey; Chateau Canard on Main Pass in the Mississippi River Delta, January 29, 1929, Joseph Leiter; at the Delta Duck Club on Octave Pass, a single bird, December 18, 1932; and one mounted in the museum of the Louisiana Department of Conservation at New Orleans, collected at Golden Meadow, La Fourche Parish, December 14, 1931. The writer also certainly identi-

fied 11 birds of this subspecies on January 24, 1928, near the Gulf of Mexico, just south of the Orange-Cameron Land Company's club house in southwestern Cameron Parish.

Black Ducks of this species but unidentifiable subspecifically have been killed at Lake Providence, February 20, 1923; on Johnson Bayou in Cameron Parish, December 3, 1923; Cameron Parish, December 14, 1923; and at Cameron, December 14, 1923, and December 11, 1925; at Gueydan, December 7, 1920; Lake Boeuf, January 12, 1931; Lake Long in La Fourche Parish, November 26, 1932; Spanish Pass in Plaquemines Parish, February, 1932; Bayou Biloxi in St. Bernard Parish, December 3, 1922; Chandeleur Island, December 6, 1924; and Rigolets, November 5, 1926. The writer has seen this species at Little Lake and Lake Felicity, December 23, 1932; on Willow Pass, December 20, 1932; and 24 individuals at Chateau Canard on Main Pass in the Mississippi River Delta, January 22, 1932. J. S. Campbell reports it common in winter, from October to March, at Lake Bistineau.

COMMON BLACK DUCK

Anas rubripes tristis Brewster

The Common Black Duck is probably a fairly common winter resident, from October to February or March, in the Gulf Coast region, and also present though less common in the interior of northern Louisiana.

Owing to the difficulty of making subspecific determinations of birds seen in the field much more investigation is necessary to determine the relative and actual abundance of this form. The writer has examined specimens taken by Wharton Huber at Chenier au Tigre on January 24 and 28, 1928; and by A. M. Bailey at Cameron Farm in Cameron Parish, December 18, 1917. One bird probably of this form, banded at Milford, Michigan, was killed at Spanish Pass, Plaquemines Parish, on February 1, 1932. The writer positively identified three individuals of this race in southwestern Cameron Parish, near the club house of the Orange-Cameron Land Company, January 25, 1928. George H.

Lowery, Jr., reports it a fairly common winter resident in the northeastern part of Louisiana, but relatively rare in the region about Monroe.³²

MOTTLED DUCK

Anas fulvigula maculosa Sennett

The Mottled Duck, or, as it is frequently called, 'summer mallard', is in size and appearance very much like the Red-legged Black Duck, but has broader light edgings on the feathers of the upper parts, and the throat is plain buff, without the streaks or spots of the Black Duck.

It is a bird chiefly of the marshes and waters of the coast region, where in habits it is very much the same as the more northern bird. It associates sometimes with other species of ducks, but is often found in flocks by itself. It breeds on the prairies, often about the ponds, placing the nest in the thick grass and rushes, sometimes over the water, and usually well concealed. It is composed chiefly of rushes and grasses, and is supported by the growing vegetation. The lining consists chiefly of finer materials, like those of the nest, also of feathers, and down, and even sometimes pieces of cotton. The 8 to 11 eggs are white or greenish white.

The Mottled Duck is a common permanent resident in the Gulf Coast marshes of Louisiana from the mouth of the Sabine River, Gum Cove in southwestern Cameron Parish, Calcasieu Pass, Cameron, Grand Chenier, Chenier au Tigre, Vermilion Bay, Marsh Island, Grand Isle, Southwest Pass and Main Pass in the Mississippi River Delta, Bayou Loutre in St. Bernard Parish, and Chandeleur Island; north to Chef Menteur, mouth of Pearl River, West Feliciana Parish, Dupres Canal in Jefferson Parish, Mermentau, Roanoke, Hayes, and Black Bayou in northwestern Cameron Parish. There are apparently no records from more northern parts of Louisiana. It breeds from February to July; and there are records of eggs from the first week in February to June 1.

³²Bull. La. Poly. Inst., Vol. XXIX, No. 4, November, 1931, p. 16.

The writer has identified specimens of this duck from Chef Menteur, collected, March 16, 1917, by A. M. Bailey; and it has also been taken at Belle Isle, March 2, 1910, and Grand Chenier, December 1, 1910, by W. L. McAtee; at Quarantine (Cubit's Gap) in the Mississippi River Delta, August 2, 1925, by C. C. Sperry; at Pilot Town, December 2, 1930, by E. R. Pike; and October 20 and 24, 1928, by A. M. Bailey; and in Cameron Parish, November 1, 1928, by A. M. Bailey. J. D. Figgins detected this species breeding in northwestern Cameron Parish in 1919, and found nests containing eggs during the first week of February, 1920. A. M. Bailey obtained a specimen with a set of eggs on May 27, 1930, at Chenier au Tigre; and also killed birds there in November. Eggs were taken by E. S. Hopkins at Grand Isle, April 8, 1926. H. H. Kopman reported it common and breeding at Calcasieu Pass in 1907, and observed a single bird at Hayes, June 12, 1918. Robert Butler says that it breeds in West Feliciana Parish; the writer observed it at Roanoke, June 20, 1933; on the Dupres Canal in Jefferson Parish, June 10, 1933; and in Southwest Pass near Burrwood, June 7, 1933. S. Ward collected specimens at Grand Isle on July 24, 27, 28, and 29, 1937.

This species seems to be as common in the winter as in the summer. W. L. McAtee noted it at Cameron, November 28 to December 6, 1910, and common also at Gum Cove in southwestern Cameron Parish, January 2 to 5, 1911. The writer remarked it near the Gulf of Mexico south of the Orange-Cameron Land Company's club house, January 24, 1928. John C. Phillips obtained specimens at Vermilion Bay in January, 1914; and W. L. McAtee at Grand Chenier, December 1, 1910. The writer observed it common on the Rainey Wild Life Sanctuary, January 22 to 23, 1928; on Atchafalaya Bay, January 29, 1932; at Avoca Island, January 28, 1932; and at Deep Lake, December 23, 1932. In the Mississippi River Delta, Stanley C. Arthur obtained specimens near the mouth of the river, December 7, 1924; and the writer met with it commonly on Main Pass, December 19, 1932; near the Delta Duck Club on Octave Pass, January 22, 1932; and in Cognovich Pass, December 18, 1932. Many

were observed on the lower Mississippi River between the Pass a Loutre Hunting Preserve and Ostrica on January 23, 1932. W. M. Sprinkle reported a large flock feeding at Chandeleur Island, February 19, 1916.

GADWALL

Chaulelasmus streperus (Linnaeus)

The Gadwall is a common winter resident, from October 1 to April 25, chiefly in the southern part of Louisiana; reported from southwestern Cameron Parish, Grand Chenier, Rainey Wild Life Sanctuary, Chenier au Tigre, Vermilion Bay, Avery Island, Atchafalaya Bay, Timbalier Bay, mouth of the Mississippi River, Chef Menteur, and Lake Catherine, north to New Roads in Pointe Coupee Parish, and Lake Providence; but mostly a transient elsewhere in the State, and apparently less frequently noticed than in the Gulf Coast region.

A specimen in the museum of Tulane University was taken at Freshwater Bayou in Calcasieu Parish, January 18, 1894. The Gadwall was collected also by W. L. McAtee at Little Vermilion Bay, February 23, 1910; at Cameron, November 29 and 30, 1910; Belle Isle, March 1 and 2, 1910; Main Pass in the Mississippi River Delta, January 31 and February 1, 1910; on Twenty-seven Pass in the Mississippi River Delta, February 3, 1910; and at Long Lake near Hamburg, March, 1910. George A. Hillery obtained it at Carlisle, January 11, 1920; L. Jenfreau at Venice, February 19, 1910; and E. J. Trinchard at Lake Borgne Pond in Lake Catherine, February 4, 13, and 16, 1910. H. H. Kopman regarded it common on False River near New Roads in Pointe Coupee Parish, December 15, 1917; and noted it also at Phoenix, October 23, 1917. A. K. Fisher saw between 200 and 300 individuals at Chef Menteur, November 3, 1919; and specimens were obtained there by A. M. Bailey on March 11 and 16, 1917.

The Mississippi River Delta is one of the best localities in the State for this species. The writer has noticed it on several of the passes near the mouth of the river, and found

it not only on the inland ponds but at the mouths of the passes as well. He saw it on Pass a Loutre, December 17, 1932; on Main Pass, January 22, 1932; but most numerous on Octave Pass, January 19, 1928, when 650 were seen. He observed 400 on Cognovich Pass, December 18, 1932; and 437 on Codro Pass on the same day. He noted it also on the Mississippi River between Ostrica and Myrtle Grove, January 24, 1932; on Lake Felicity, Lake Barre, and Timbalier Bay, December 23, 1932; Atchafalaya Bay, January 29, 1932; and common at Avery Island, December 28, 1932. At Grand Chenier, December 31, 1932, he saw three birds that had been collected on that day. He also listed a few on Calcasieu Lake, December 31, 1932; also between the club house on the Orange-Cameron Land Company's ranch and the Gulf of Mexico in southwestern Cameron Parish, January 24, 1928.

EUROPEAN WIGEON

Mareca penelope (Linnaeus)

The European Wigeon is an accidental winter visitor, south to the Gulf of Mexico in southwestern Louisiana.

The only records for the State seem to be three birds, a male and two females, collected in 1915 by W. B. Lee in Cameron Parish on his Cameron Farm 14 miles south of Vinton.²²

BALDPATE

Mareca americana (Gmelin)

Of the many species of ducks that are native to eastern North America, very few are better known than the Baldpate, or, as it is commonly called, 'wigeon' or 'American Wigeon.' It derives its name Baldpate from the general appearance of the white top of the head, by which the adult male can be readily distinguished. The large white patch in the wing, together with the vinaceous band on the breast, and the long green stripe behind the eye, the speckled throat, and rather large size, will readily distinguish the

²²Arthur, Bull. La. Dept. Cons., No. 5, January, 1918, p. 22.

male of this bird from its relatives. The female, however, is a dull colored bird that in appearance much resembles the females of a number of other ducks.

This duck frequents both fresh and salt water ponds, lakes, rivers, and bays, wherever it can find shelter and food. It is one of the most beautiful of the American ducks, and one that is a favorite with sportsmen. It has a strong flight, although it is probably not so swift as some of the smaller species; and a curious whirring sound, so characteristic of many ducks, is caused by the beat of its wings. It associates commonly in flocks, either alone or in company with other ducks. Its low whistling note is decidedly musical and characteristic.

The food of the Baldpate consists of the seeds, roots, and leaves of pondweeds, grasses, and other water plants, insects, with a small quantity of mollusks, crustaceans, and various other articles of diet that the marsh affords, including small fishes and other water animals. This bird commonly feeds with its head, neck, and breast below the surface, though it rarely dives. However, the bird robs not only the Canvasback and Redhead of the results of their labors, in the form of food that it covets, but it treats even the Coot in the same way.

The nest of the Baldpate is rather well constructed, usually not close to the water, but on dry land and on the ground. It is a slight depression, lined with weeds, grasses, and down, probably from the female herself. The 8 to 12 plain buffy white eggs are incubated by the female alone, and only a single brood is reared. The downy little ducklings when hatched resort to the shores of lakes or grassy ponds, where the parent watches over them until they are able to care for themselves.

The Baldpate is a common winter resident, from October 15 to April 25, on the Gulf Coast marshes and islands of Louisiana, from Chandeleur Island and the mouth of the Mississippi River, to Chenier au Tigre, and to Gum Cove in southwestern Cameron Parish; north at least in migration to Lake Providence, Catahoula Lake, and Monroe. It is

seen usually in small companies, but sometimes in flocks of 1000 or more. The Chandeleur Islands and the Mississippi River Delta seem to be favorite resorts for this species.

The writer has seen specimens of this duck in the museum of Tulane University at New Orleans, from Lake Catherine, collected in 1900, and a bird taken by L. Spaulding at Iowa (La.), March 15, 1909. It was obtained by W. L. McAtee at Gum Cove, January 3, 1911, and at Belle Isle, March 1 and 2, 1910; by Stanley C. Arthur at the mouth of the Mississippi River, December 4, 1924; by E. J. Trinchard at Lake Catherine, November 7, 1925, and January 16, 1926, and at Lake Borgne Pond in Lake Catherine, February 16, 1910; by Joseph Leiter at Chateau Canard on Main Pass in the Mississippi River Delta, January 1, 1929; and by A. M. Bailey at White Lake on February 7, 1919.

W. M. Sprinkle observed it at Battledore Island, March 5, 1915; Errol Island, February 5, 1914; Freemason Island, January 1, 1914; and at Chandeleur Island, January 9, 1913. The writer saw moderate numbers of this species on the Rainey Wild Life Sanctuary, January 23, 1928; at Wax Lake Pass and Avery Island, December 28, 1932; and on Atchafalaya Bay, January 29, 1932. In the Mississippi River Delta he found it common on Codro Pass, December 18, 1932; on Pass a Loutre, December 17, 1932; and on Octave Pass near the Delta Duck Club, January 22, 1932; also along the Mississippi River from the Pass a Loutre Hunting Preserve north to near Ostrica on January 23, 1932.

AMERICAN PINTAIL

Dafila acuta tzitzihua (Vieillot)

The Pintail, commonly known also as 'sprig' or 'sprig-tail', is one of the most abundant and best known ducks of North America. It has a wide distribution from the Atlantic to the Pacific Oceans. So far as the male is concerned it is easily distinguished from the other ducks by its brown head and neck, brownish gray upper parts, white lower parts, and long white stripe up the side of the neck.

It is found in almost all situations where there is water, both inland and along the coast, but it seems to be rather partial to the lakes, ponds, and larger streams that have marshland borders, and the unwooded marshes, either along the coast or elsewhere. It is one of the early migrants, and moves sometimes in large flocks. On its wintering ground or in migration it sometimes gathers on lakes and in marshes in almost unbelievable numbers, at times moving in dense flocks. Its long wings and tail make it easily identifiable in flight. This duck is a favorite with sportsmen, not only on account of its abundance, but on account of the fine quality of its flesh as food and of the sport that its hunting provides.

The flight of the Pintail is swift, and it has the habit of dropping from a high altitude for a long distance, sometimes almost to the ground, during which performance the wings produce a rushing sound that is audible for a considerable distance. When rising from the water it springs upward, as does the Mallard, and is soon off on its flight. On the water it is one of the most graceful of the ducks, but always alert. It is not from particular choice a diving species, and it seeks its food along the shore, or in shallow water, by stretching down the neck and dabbling in the mud to obtain the animal or vegetable food on which it subsists. This food consists to a large extent of vegetable matter, such as seeds, roots, and tender shoots of various kinds of water plants, as pondweeds, grasses, smartweeds, sedges, duckweeds, and other similar vegetation. It feeds also on such animal food as worms, snails, leeches, small fishes, crawfishes, other crustaceans, and various kinds of insects.

It nests commonly on dry ground, sometimes at a considerable distance from water, although also near the shores of lakes, ponds, or other bodies of water. It places its nest on the ground in a depression; makes it of small sticks, grasses, mosses, and other vegetation; and lines it with finer grasses, leaves, and down. Sometimes the nest is well concealed, at other times it is easily discovered. The eggs are

usually six to eight, and in color pale buff or greenish. The young are hatched in a rather shorter time than the young of the Mallard, in slightly over three weeks, and the incubation is taken care of by the female alone. She is not easily flushed from the nest and will sometimes remain until almost trodden upon. As with many other species of ducks, the female takes most of the care of the young, and is exceedingly solicitous for the welfare of her children. When they are threatened by an intruder she apparently forgets about herself and seeks only to draw attention away from her young by feigning injury or by other means.

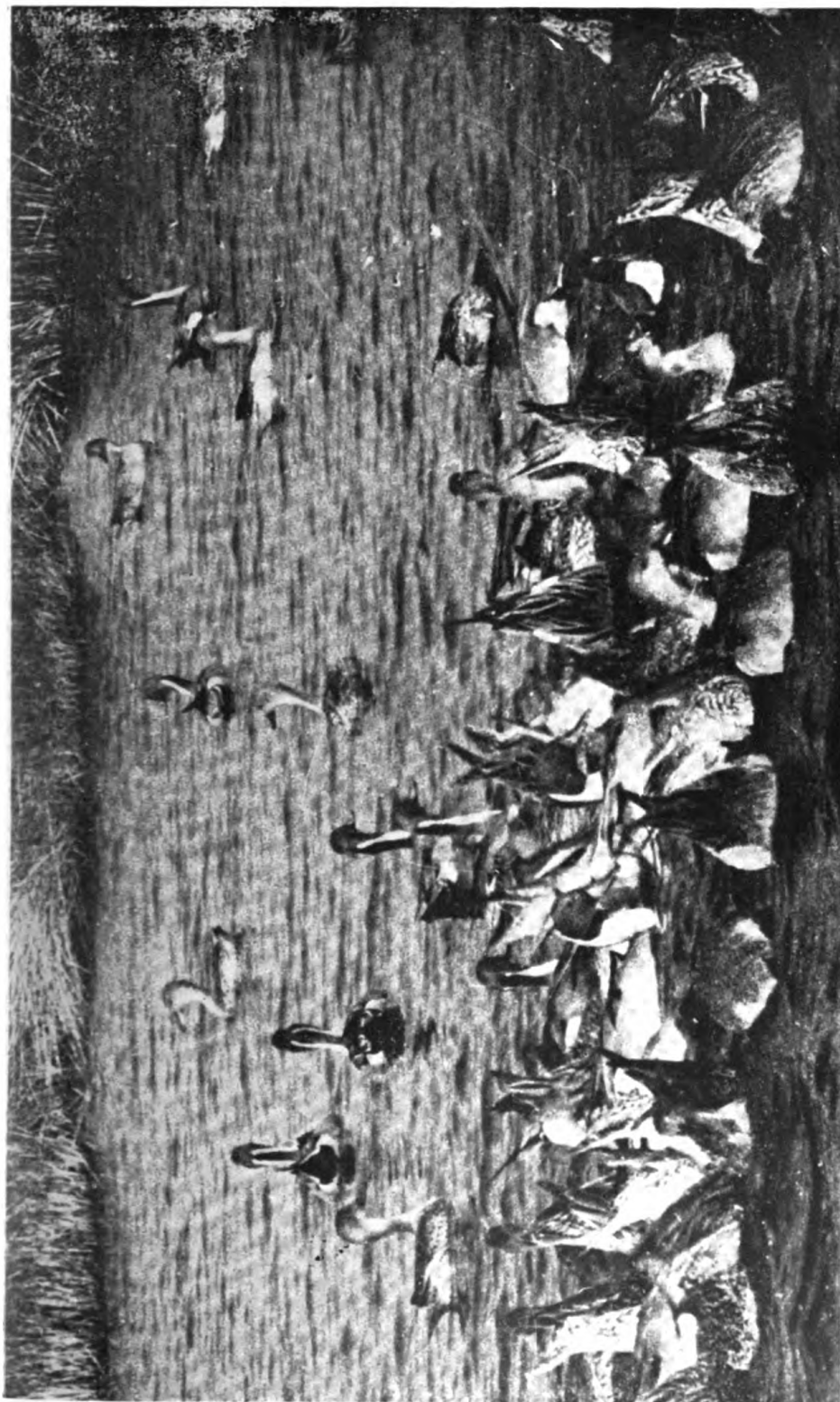
The American Pintail is a very abundant winter resident, from September 15 to April 27, throughout Louisiana, reported north to Lake Providence, Bear Lake northwest of Tallulah, Lake Bistineau, and Caddo Lake; west to Shreveport and southwestern Cameron Parish; south to Cameron, Calcasieu Lake, Grand Chenier, shores of Grand Lake in eastern Cameron Parish, the Rainey Wild Life Sanctuary, Chenier au Tigre, Marsh Island, Vermilion Bay, Lake Barre, and Port Eads; and east to Pass a Loutre in the Mississippi River Delta, the lower Mississippi River, Breton Island, Errol Island, Freemason Island, Chandeleur Island, Brush Island, Chef Menteur, Lake Catherine, New Roads, and Madison Parish. It is most numerous in the marshes of the Gulf Coast region, but it frequents all kinds of water and marsh areas as well as the swamps, although not so much the wooded areas of the swamps as the Mallard. It is often seen in flocks of thousands along the coast, by itself or associated with other ducks. With the possible exception of the Mallard it is the most numerous duck in Louisiana.

This duck was collected at Gum Cove, January 3, 1911; at Cameron, November 29 and 30, 1910; at Little Vermilion Bay, February 25, 1910; at Gueydan, February 15, 1910; Grand Chenier, December 1, 1910; at Belle Isle, March 1 and 2, 1910; and Big Lake near Hamburg, February 11, 1910, all by W. L. McAtee. E. J. Trinchard obtained it at Lake Borgne Pond in Lake Catherine, February 13, 1910, and at Chef Menteur, February 15, 1910; by A. M. Bailey

at the latter locality on April 16, 1917; Wharton Huber at Chenier au Tigre, January 19, 1928; Joseph Leiter at Chateau Canard in the Mississippi River Delta, January 30, 1930; L. Jenfreau at Venice, February 18 and 19, 1910; and E. R. Kalmbach, south of Gueydan, many specimens from February 10 to 17, 1930.

In the Mississippi River Delta this species occurs almost everywhere. W. L. McAtee gathered a number of specimens at Twenty-seven Pass, February 2, 3, and 4, 1910; E. B. Cognevich killed others at Triumph, February 10 to 14, 1910; and in November, 1911; C. S. Harris at the Delta Duck Club on Octave Pass, January 16, 1926; and W. L. McAtee on Main Pass, January 31, 1910. H. H. Kopman noted it at Port Eads, October 12, 1917; and the writer saw about 5600 individuals on Octave Pass, January 22, 1932; found the species abundant on Codro Pass, Dead Woman Pass, and Cognevich Pass, December 18, 1932; Main Pass and Gasper Pass, December 19, 1932; Willow Pass, December 20, 1932; and less common on Pass a Loutre, Johnson Pass, and Dennis Pass, December 17, 1932.

H. H. Kopman considered it as common on False River near New Roads, December 15, 1917; and W. M. Sprinkle as abundant on Hog Island, November 13, 1914; Freemason Island, November 23, 1910; Errol Island, October 31, 1912; Brush Island, January 11, 1914; and Chandeleur Island, January 12, 1916. The writer met with it on the lower Vermilion River and on the Rainey Wild Life Sanctuary, January 23, 1928; on Marsh Island, January 30, 1932; and on Avoca Island, January 28, 1932. It was abundant at Avery Island, December 28, 1932 and he saw it also at Lake Barre, December 23, 1932; at Grand Chenier and on Calcasieu Lake, December 30, 1932. In southwestern Cameron Parish he discovered it common between the Orange-Cameron Land Company's club house and the Gulf of Mexico, and on Black Bayou in northwestern Cameron Parish, January 24, 1928. Ned Hollister observed several flocks flying over Bear Lake eight miles northwest of Tallulah, February 17 to March 6, 1904. W. B. Lee reported a fairly good flight of this duck



PINTAILS (*Dafila acuta tzitzihua*).
Rainey Will Life Sanctuary, La., January 1, 1934.
(Photograph by A. M. Bailey and F. R. Dickinson.)

in the vicinity of Shreveport during the week preceding October 21, 1930; and Henry Galbraith reported 500 at Caddo Lake on February 4, 1932. A. B. Blakemore chronicled the autumn arrival of this bird at New Orleans about September 15; and H. L. Ballowe at Diamond, September 25, 1900. According to J. S. Campbell the American Pintail is abundant on Lake Bistineau in late autumn and winter.

GREEN-WINGED TEAL

Nettion carolinense (Gmelin)

This duck is rather smaller and more slender than the Blue-winged Teal, and its rufous head with a broad green stripe on the side, and its light, dark-spotted, breast, will serve to distinguish it, so far at least as the male is concerned, from any of the other small ducks.

The Green-winged Teal is more of a salt water duck than the Blue-winged Teal, and is widely distributed throughout North America. It occurs in large numbers along the coast, as well as in the interior. During the breeding season it is rather more northerly in habitat than the Blue-winged Teal, and it does not go so far south during the winter.

This teal is one of the very swiftest on the wing of all our ducks, and perhaps moves at times at the rate of nearly 100 miles an hour. It is marvelously active in the air, and sometimes in dense flocks performs almost unbelievable maneuvers over the marshes. Like the Blue-winged Teal it often associates with other ducks, or moves in flocks by itself.

The note of the male Green-winged Teal is a rather inconspicuous mellow whistle, and that of the female a faint quack. On land this bird is rather unusually graceful, and can run rather swiftly. Sometimes it even travels considerable distances on foot, particularly when passing from one pond to another in search of food. It is, of course, a fine swimmer, and dives well, although it does not obtain its food usually in this way, preferring to dip in the shallow water, as do the other surface feeding ducks.

The food of this teal consists of many kinds of water animals, such as mollusks, crustaceans, tadpoles, insects, and worms, and of various water plants and their seeds. It frequently is found in grain fields, where it feeds on waste grain of different kinds, such as wheat, barley, and corn, and it is fond also of the seeds of weeds and grasses, and various berries and nuts.

The nest of this duck is placed on the ground in a depression, and is ordinarily well constructed, in a dry situation, sometimes not even near the water. It is composed of grasses and weeds, sometimes a few leaves and even small twigs, and lined with a mat of fine grasses and down. The usually 10 to 12 eggs are cream color or very dull white, without markings. They are hatched in about the same time as the eggs of the Blue-winged Teal, and the female takes practically all care of the young until they are able to fly.

The Green-winged Teal is a common winter resident, from October 1 to April 22, casually to May 2, throughout most of Louisiana, though more numerous in the southern portion, and mostly transient in the northern part of the State. It has been noted north to Bear Lake northwest of Tallulah, Monroe, Liberty Hill, and Bienville; west to Freshwater Bayou in Calcasieu Parish, and southwestern Cameron Parish; south to Mud Lake in Cameron Parish, Calcasieu Pass, Cameron, Grand Chenier, Chenier au Tigre, Rainey Wild Life Sanctuary, Avery Island, Marsh Island, Atchafalaya Bay, Timbalier Bay, and the Mississippi River Delta; and east to Main Pass (Mississippi River Delta), Belair, New Orleans, Caernovan, St. Bernard, Baton Rouge, Mansura in Avoyelles Parish, and Madison Parish. It frequents the marshes and water areas of the Gulf Coast, also the swamps, lakes, and streams of the interior, and is found often associated with other ducks.

The writer has seen a specimen of this species from Freshwater Bayou in Calcasieu Parish, taken, January 12, 1904; and other birds were collected by G. Würdemann in the spring of 1854 at Calcasieu Pass; by W. L. McAtee at

Cameron, November 29 to 30, 1910, Grand Chenier, December 1, 1910, Little Vermilion Bay, February 23 and 24, 1910, Gueydan, February 15, 1910, and Belle Isle, March 2, 1910; by Joseph Leiter at Chateau Canard on Main Pass in the Mississippi River Delta, January 30, 1930; by A. A. Rabalais at Mansura in Avoyelles Parish, October 22, 1911, December 20, 1910, and January 12, 1912; by R. Mattason at Bordelonville, October 28 and November 5, 1911, and October 2, 1912; at Hamburg, November 9 and December 9, 1912, November 1, 1912, and October 25, 1912; Moreauville, October 2 and 15, 1912, and November 30, 1912; and by E. J. Trincharde on Lake Borgne Pond in Lake Catherine, February 4, 1910. H. H. Kopman reported it at St. Bernard, October 19, 1920.

In the Mississippi River Delta this species is locally common. E. B. Cognevich obtained it at Quarantine (Cubit's Gap), December 18, 1911; and W. L. McAtee on Main Pass, January 31 and February 2, 1910; and on Twenty-seven Pass, February 3, 1910. The writer observed small numbers at Pass a Loutre, December 17, 1932; on Cognovich Pass, December 18, 1932; and near the Delta Duck Club on Octave Pass, January 22, 1932. L. Jenfreau collected birds at Venice, February 18 and 19, 1910; and the writer saw the species occasionally on the Mississippi River between the Pass a Loutre Hunting Preserve and Ostrica, January 23, 1932. At Belair, one was reported by Ned Hollister as shot there, March 29, 1904. J. S. Campbell reports two collected at Liberty Hill, March 10, 1932; another near Bienville, April 18, 1933; and several seen on a pond near Bienville, April 22, 1933.

Ned Hollister saw a few also about Bear Lake, eight miles northwest of Tallulah, February 17 to March 6, 1904. The writer noticed the Green-winged Teal on Atchafalaya Bay, January 29, 1932; on Lake Timbalier, Little Lake, Lake Barre, Lake Felicity, and Terrebonne Bayou in Terrebonne Parish, December 23, 1932; at Avoca Island, January 27, 1932; Avery Island, December 28, 1932; on the lower Vermilion River and the Rainey Wild Life Sanctuary, January

22, 1928; and on Calcasieu Lake, December 31, 1932. He saw a few individuals along the canals in the northwestern part of the Orange-Cameron Land Company's ranch in western Cameron Parish; and along Black Bayou in northwestern Cameron Parish, January 27, 1928; also at Mud Lake and the Orange-Cameron Land Company's club house, January 26, 1928.

BLUE-WINGED TEAL

Querquedula discors (Linnaeus)

Although one of the smaller ducks, the Blue-winged Teal is one of the best known and one greatly sought by sportsmen. While it occurs over much of North America it is rare or absent in the northern portions, and is most common in the wide area commonly called the Valley of the Mississippi. In winter it migrates regularly to South America, being the only North American duck that does this in any considerable numbers. In addition to its size, its bright grayish blue wing-patch will readily distinguish it from other similar ducks.

Since it is largely a bird of the fresh water it is found in greatest numbers along rivers, and about ponds and lakes, where it frequently gathers in great numbers. It is one of the earliest migrants among the ducks and passes south from the northern part of its range during September. It has a rapid and well-sustained flight, moves in often dense flocks, and frequently associates with various other species of ducks. In alighting it often pitches suddenly down into the reeds, like a snipe.

When feeding it is rather graceful in movement, and, like the other surface-feeding ducks, does not dive for its food but immerses the head and neck in efforts to obtain food from the bottom of the water. Its diet comprises both vegetable and animal matter, the vegetable consisting chiefly of various parts of aquatic plants, seeds of pond-weeds, smartweeds, and various kinds of grasses and sedges; and the animal matter of many kinds of water animals, such as insects, mollusks, worms, and crustaceans.

The nest of this duck is usually on the grassy margin of a pond or stream, and is a fairly bulky structure of different kinds of reeds, grasses, and rushes, lined with down. Sometimes the nest is arched over, the better to provide concealment. The usually 8 to 12 eggs are light cream color or dull white, unmarked. Incubation lasts about 22 days, and practically all the young are hatched at one time. They remain in the nest only until they are able to walk, when they are led to the water by their parents and guarded by the mother until they are able to take care of themselves. Like many of the ducks the female is very attentive to the young, and protects them with all the wiles that she possesses.

The Blue-winged Teal is a permanent resident throughout the greater part of Louisiana; reported north to Lake Providence, Oak Grove in West Carroll Parish, Monroe, and Bienville; west to western Cameron Parish; south to Calcasieu Pass, Cameron, Grand Chenier, the Rainey Wild Life Sanctuary, Chenier au Tigre, Marsh Island, Vermilion Bay, Grand Isle, and the Delta Duck Club in the Mississippi River Delta; and east to Main Pass in the Mississippi River Delta, Diamond, Savoie, Phoenix, Carlisle, Belair, Mitchell Island, St. Malo on Lake Borgne, Lake Catherine, and Bayou Sara. It is most common as a transient from September to November, and from March to April; and is fairly common in winter in the southern part of the State, but rare in winter in northern Louisiana; and a casual breeding bird, from Marsh Island and Cameron Parish to Black Bayou Lake in Ouachita Parish in the northern part of the State. It nests chiefly in April and May; and there is record of eggs on May 9.

T. Gilbert Pearson reports that it breeds sparingly on the Rainey Wild Life Sanctuary; and George H. Lowery, Jr., mentioned finding adults with young on Black Bayou Lake in northern Louisiana.

This species was collected at Calcasieu Pass in the spring of 1854 by G. Würdemann; south of Gueydan, April 3 and 5, 1926, by E. R. Kalmbach; in Avoyelles Parish, April 1, 1912, and September 23, 1912, by A. A. Rabalais; at Belle

Isle, March 2, 1910, by W. L. McAtee; and at Grand Isle, April 16, 1936, by Ambrose Daigre. H. L. Ballowe reported it at Diamond, April 3, 1902; H. H. Kopman at Caernovan, November 4, 1917, and April 16 to 18, 1918; at Phoenix, September 12 to 15, 1917; and at Savoie, April 14, 1918. Ned Hollister found it abundant at Belair, March 25 to April 8, 1904; and W. M. Sprinkle saw 25 individuals on Mitchell Island, September 19, 1911. A. M. Bailey obtained a specimen at Chef Menteur on April 16, 1917; and J. Canile several at Grand Chenier on April 6, 1919.

There are a number of known winter occurrences. A specimen in the museum of Tulane University was taken at St. Malo on Lake Borgne, January 5, 1900. J. S. Campbell considers it common in winter at Bienville; he saw four individuals at Oak Grove in West Carroll Parish, December 23, 1934; and L. E. Hicks eight at Lake Providence, December 22, 1931. W. L. McAtee saw it at Cameron, December 3, 1910; and the writer noted a few between the Orange-Cameron Land Company's club house and the Gulf of Mexico, January 26, 1928; also at Avery Island, December 28, 1932; at Avoca Island, January 28, 1932; and a single bird on Bayou Black between Houma and the mouth of Bayou Chene in Terrebonne Parish, January 27, 1932. G. A. Hillery collected a single specimen at Carlisle, December 7, 1919; Joseph Leiter, one at Chateau Canard on Main Pass, in the Mississippi River Delta, January 31, 1930; C. S. Harris, another at the Delta Duck Club on January 16, 1926, and J. D. Figgins one in Cameron Parish, February 5, 1920. The writer saw a number on the Mississippi River between the Pass a Loutre Hunting Preserve and Ostrica, January 23, 1932.

The subspecies described from Grand Chenier, Louisiana, by F. H. Kennard, as *Querquedula discors albinucha*,³ is apparently but an individual variant of the Blue-winged Teal, possibly due in part to the age of the individual.

³The Auk, Vol. XXXVI, No. 4, October, 1919, p. 459.

CINNAMON TEAL

Querquedula cyanoptera cyanoptera (Vieillot)³⁵

The Cinnamon Teal is a rare autumn and winter visitor in northern and southern Louisiana.

There are apparently few definite records for the State. The first is a specimen taken by E. Pilaté at Opelousas in 1849, before August 21, and recorded by John Cassin.³⁶ The species has been reported from Cameron Parish, Marsh Island, the State Wild Life Refuge, the Rockefeller Wild Life Refuge, Chef Menteur, and by George H. Lowery, Jr.,³⁷ from Shreveport and Ruston, all these without specific dates. Definite records³⁸ are a pair of birds taken at Pointe a la Hache in Plaquemines Parish, December, 1884; another pair from the western shore of Lake Pontchartrain near New Orleans, obtained also in December, 1884; two females shot by A. Perilliat on Lake Catouatchie in December, 1893; a pair collected in November, 1896, on Lake Catouatchie; a male killed by Rafael Robin at St. Malo on Lake Borgne, January 5, 1900, which is now in the museum of Tulane University, where it has recently been examined; and one bird shot by John Dymond, Jr., at the Delta Duck Club, January 15, 1911, this being one of about 20 killed in Louisiana during that season.³⁹

SHOVELER

Spatula clypeata (Linnaeus)

The Shoveler, commonly called by sportsmen 'spoon-bill', on account of its somewhat spoon-shaped bill, is one of the most handsome North American ducks. Its metallic green head, white breast, chestnut under parts, grayish blue and green wing markings, and black back, give the male a conspicuous appearance that is distinctive.

While it is one of the characteristic fresh water ducks, it is found also in the marshes and inlets of the coastal

³⁵*Querquedula cyanoptera* of the 1931 A. O. U. Check-List.

³⁶Proc. Acad. Nat. Sci. Phila., Vol. IV, 1849 (1850), p. 195.

³⁷Bull. La. Poly. Inst., Vol. XXIX, November, 1931, p. 17.

³⁸Beyer, Proc. La. Soc. Naturalists, for 1897-1899 (1900), p. 89; Allison, The Auk, Vol. XVII, No. 2, April, 1900, p. 170.

³⁹McAtee, The Auk, Vol. XXVIII, No. 2, April, 1911, p. 274.

areas, and even sometimes at the mouths of rivers along the coast. It occurs elsewhere in all kinds of situations wherever there is water and food, and frequently associates with other ducks, such as the Baldpate and Lesser Scaup, either in small companies, or at times in larger flocks by itself. This duck has a swift and rapid flight, and rises straight up from the water without difficulty as do the Mallard and Pintail. The notes of the Shoveler are not conspicuous, being weak and low-pitched. It is one of the ducks that may be expected, particularly during migration and in winter, in almost any large company of mixed waterfowl.

The Shoveler feeds much from the surface of the water, but also in shallow water, along the edges of the marshes, where at times it tips up to feed from the bottom, although it does not indulge in this practice so much as some of the other surface-feeding ducks. Its food consists chiefly of the buds, young shoots, and seeds of grasses, rushes, duckweeds, pondweeds, and various other water plants, together with crustaceans, small mollusks, worms, small frogs, fishes, snails, and other similar aquatic animals.

It nests on the ground, usually on prairies or meadow lands, sometimes on high ground at a considerable distance from the water, on either moist or dry ground. The nest is placed in a depression, and usually is well hidden in the grass or by other vegetation. It is composed of grasses, weed-stalks, and similar materials, and lined with down and finer grasses. The eggs are usually about 11, and are of a pale dull greenish color. The male takes little interest in the nest and the subsequent care of the young, but gathers into flocks and frequents the ponds and sloughs in the general neighborhood. The incubation duties and the care of the young are performed entirely by the female.

The Shoveler is a winter resident, from October 21 to April 16, in Louisiana, common in the Gulf Coast region, from Chandeleur Island and Lake Catherine, west to Belair, Phoenix, Mississippi River Delta, Rainey Wild Life Sanctuary, Rockefeller Wild Life Refuge, Chenier au Tigre, and Calcasieu Pass; less common, often only a transient in cen-

tral and northern Louisiana; reported in winter north to Lake Providence, Bear Lake northwest of Tallulah, Oak Grove in West Carroll Parish, Black Lake Bayou in Bienville Parish, and Lake Bistineau. It frequents the marshes and islands of the coast region directly on the Gulf of Mexico in salt water, and also the ponds, swamps, lakes, and streams of the interior, often associated with other ducks. It is, however, apparently much less numerous than formerly.

This duck was taken at Calcasieu Pass in the spring of 1854 by G. Würdemann; at Belle Isle, March 1, 1910, by W. L. McAtee; south of Gueydan, April 8, 1926, by E. R. Kalmbach; at Carlisle by G. A. Hillery, November 2, 1919; and at Chateau Canard on Main Pass in the Mississippi River Delta, January 1 and 29, 1929, and January 30, 1930. H. H. Kopman saw a few at Phoenix, October 23, 1917; found it abundant at Belair, October 21, 1917; and observed it also on Lake Catherine, April 4 and 5, 1918. A. K. Fisher killed ten at Chef Menteur, November 2, 1919; A. M. Bailey one there on April 16, 1917; and R. B. Warther others at Grand Chenier on February 21, and March 10, 1916.

W. L. McAtee obtained it at Grand Chenier, December 1, 1910; Cameron, November 29 and 30, 1910; and on Twenty-seven Pass in the Mississippi River Delta, February 2 and 3, 1910; and L. Jenfreau at Venice, February 18 and 19, 1910. The writer found it common in the Mississippi River Delta, especially on the Pass a Loutre Hunting Preserve, January 23, 1932, where it frequented largely the mouths of the passes. He noted it at Cognovich Pass, December 18, 1932; on Octave Pass, January 22, 1932; Main Pass, December 19, 1932; and Willow Pass, December 20, 1932. W. M. Sprinkle reported several hundred feeding about Chandelier Island, February 12, 1915. W. L. McAtee discovered it common in the region about Vermilion Bay, February 23 to March 3, 1910; and Vernon Bailey abundant in the marsh area of southern Cameron Parish, January 6 to 13, 1926. W. L. McAtee met with it at Cameron, December 3, 1910; and the writer saw 400 individuals near the club house of

the Orange-Cameron Land Company in southwestern Cameron Parish, January 25, 1928; and small numbers of this bird in the same general region about the same time; and on the Rainey Wild Life Sanctuary, January 22 and 23, 1928. Ned Hollister reported a flock of 12 birds on Bear Lake, eight miles northwest of Tallulah, February 28, 1904; and J. S. Campbell two individuals at Tallulah, December 25, 1933; and two at Oak Grove in West Carroll Parish, December 23, 1934. George H. Lowery, Jr., says that it is fairly common during winter at False River in northern West Baton Rouge Parish. J. S. Campbell also considers it rather regular in winter on Black Lake Bayou in Bienville Parish, and on Lake Bistineau.

WOOD DUCK

Aix sponsa (Linnaeus)

Perhaps the most beautiful duck in North America, the male Wood Duck is conspicuous by his bright colors. His green and purple head, with narrow white streaks, white throat, reddish or chestnut breast, and white under parts, with light buffy brown sides, pinkish white bill, and orange feet, mark him as distinguished.

This shy bird is almost exclusively a fresh water duck, and lives in the cypress and other swamps of the south, the wooded swamps and marshy woodlands, particularly along the streams, and other similar places in the north. Usually seen singly, in pairs, or in small flocks, it occasionally, in places where it is abundant, gathers in flocks of sometimes several thousands. It is, in the northern part of its range, a strictly summer bird, from which characteristic it is commonly called 'summer duck'. It is a rather early spring migrant, and soon passes into its northern quarters. In its natural haunts this bird is very skillful in flying swiftly through the trees, even in dim light. Its ordinary flight is strong and swift, and its outline is usually sufficient for identification. It is an excellent swimmer and, like most ducks, can dive well, although it does not commonly engage much in this practice.

The notes of the male are a rather weak, plaintive whistle, but the female has a rather harsh quack.

The Wood Duck obtains part of its food on the surface of the water, or from the bottom of the shallows. It feeds also largely on the land, picking up from the ground various kinds of vegetable matter, such as chestnuts, acorns, and berries. It feeds much on the seeds, stems, and leaves of water plants, such as duckweeds, grasses, sedges, and pondweeds. It lives also on many kinds of insects, such as beetles, locusts, and May flies, and on small fishes, snails, small frogs, and similar animals.

It is one of the relatively few kinds of ducks that do not nest on the ground. For this purpose the bird selects a cavity in a tree, and from this habit is called 'Wood Duck' or 'tree duck'. While this is its common place of nesting it uses also suitable bird boxes put up for the purpose. The nest is nearly always not far from water, but sometimes it is at a considerable distance; and the height from the ground varies from three to more than 50 feet. The hollow used as the nest often contains pieces of plants, feathers, and down. The dull white eggs are usually 10 to 15 in number, although sometimes many more. The young are hatched in about four weeks. Although the female performs this herself, the male is often not far away. Much has been said regarding the manner in which the female Wood Duck brings the young from the nest to the water on which they subsequently live, but it is now known that there are at least three or four methods by which this is accomplished. Sometimes the young, when the nest is not too high from the ground, jump or scramble down to the water themselves, sometimes they are carried by the parents, on the back or grasped in the feet or bill of the parent.

The Wood Duck is one of the outstanding examples of the value of protection, since many years ago this duck was in great danger of practical extinction, but by a closed season, which is still in effect, it has been brought back to a condition that is very gratifying to all who are fond of the

out-of-doors. It is hoped that no catastrophe will happen to this beautiful bird and that it may always be preserved.

The Wood Duck is a common permanent resident throughout Louisiana, wherever there are wooded swamps or bayous, even in the southern part of the Gulf Coast region; less common, however, in winter in northern Louisiana than in the southern part of the State; reported north to Lake Providence, West Carroll Parish, Monroe, Black Bayou Lake in Ouachita Parish, Saline Creek in Bienville Parish, and Lake Caddo; west to Clear Lake in De Soto Parish and to Cameron Parish; south to Calcasieu Pass, the Rainey Wild Life Sanctuary, Chenier au Tigre, Avery Island, Houma, and Belair; and east to Boutte, New Orleans, Bayou Loutre in St. Bernard Parish, Madisonville, Clinton, Bayou Sara, Bains, Moreauville, Hamburg, Bordelonville, Mansura, and Thomastown. It is probably more numerous everywhere in the summer than in the winter, and breeds chiefly from early April to June.

A specimen in the museum of Tulane University was taken at New Orleans, December 13, 1909. Wood Ducks were obtained at Long Lake near Hamburg, in March, 1910, by P. A. Conlon; at Mansura in Avoyelles Parish, October 28 and 30, 1911, December 20, 1910, January 12, 1911, and February 4, 1911, by A. A. Rabalais; and by J. B. Mattason at Hamburg, September 20, 1912, December 12 and 20, 1912, and February 2 and 24, 1912; at Moreauville, September 15, 1912, November 11, 1911, and December 3, 1912; and at Bordelonville, October 22, 1911, and November 5, 6, and 16, 1911. The writer found it fairly numerous along the lower Vermilion River below Abbeville, January 22, 1928; and Henry Galbraith reported 25 seen at Caddo Lake, February 14, 1932.

George E. Beyer reported in 1891 that it bred at Madisonville and Clinton; and Robert Butler states that it now nests in West Feliciana Parish. J. S. Campbell considers it not common in summer along Saline Creek in Bienville Parish, where it breeds. H. H. Kopman found it common at St. Martinville, August 9 to 12, 1917; and he noted it also

at Burton, between July 12 to 14, 1917; at Bayou Boeuf, June 19 to 21, 1917; on Bayou Chene, August 29 to 30, 1917; and at Boutte, August 23 and 24, 1917. C. A. Bibbins gave it as a common resident at Mermentau; and E. C. Wurzlów as common at Houma. A. M. Bailey noted the species breeding at Avery Island, May 18, 1930. H. H. Kopman remarked it common about the small lakes in the swamps near Thomastown in Madison Parish, July 13 to 28, 1896; and Ned Hollister met with it commonly in East Carroll and West Carroll parishes, March 6 to 13, 1904. He obtained a specimen at Tallulah on February 23, 1904; and J. S. Campbell observed two individuals there on December 25, 1933.

REDHEAD

Nyroca americana (Eyton)

This duck is well described by its common name, but is sometimes, in books at least, called the American Pochard, on account of its supposed close relationship to the European bird known by that name. It is readily distinguished from all the ducks, except the Canvasback, by its reddish chestnut head and neck, gray upper parts, and whitish posterior under surface. It differs from the Canvasback in having a shorter, stouter bill, and more brightly chestnut head.

It breeds exclusively in the interior, on lakes, ponds, sloughs, and other small bodies of water, but during winter it lives in the coastal regions, on the inlets, lagoons, and adjacent rivers, frequenting both the marshes and the open water. This is one of the ducks that gather into enormous flocks, and is often associated with other ducks, particularly the Canvasback. It has suffered most severely from adverse conditions in the last few years, and its careful protection in the immediate future is the only prospect that exists for its salvation. It is one of the finest of our North American ducks, one, too, that is much sought after by sportsmen and epicures, and for these reasons, as well as for many others, it is desirable that it receive adequate protection.

In obtaining its food the Redhead almost always pursues the diving method, and it, therefore, is able to feed in water of considerable depth, although it frequents for this purpose the places where it can find the food that it seeks. It may be seen also, on occasion, working about the shallow margins of the marshes and streams, where also it can find food, at times in company with surface-feeding ducks. It lives on the roots, leaves, and other parts of various kinds of water plants, such as wild celery, water lilies, wild rice, and such animals as frogs, snails, other mollusks, fishes, lizards, insects, and other, chiefly water, animals.

The Redhead breeds usually in marshes and sloughs, where there is a suitable place for its nest among the rushes or flags. This is usually located in rather shallow water, and among the plants that grow in such places. It is composed of reeds, rushes, or similar water plants, and lined with finer materials of the same kind, but often with little or no down, sometimes, however, with a considerable quantity. The eggs are considerable in number, commonly from 10 to 15, but often many more. They are usually pale buff in color, and can ordinarily be distinguished from the eggs of the Canvasback. Not infrequently eggs of other species of ducks are found in the nest of the Redhead. The young are beautiful balls of down, buff or brownish olive in color, with darker markings. They are able to swim almost as soon as hatched, and are taken in charge by the female.

The Redhead is an uncommon, formerly common or abundant, winter resident, from November 12 to March 22, in the Gulf Coast region of southern Louisiana; reported from Lake Catherine, Chandeleur Island, South Pass in the Mississippi River Delta, southern La Fourche Parish, East Cote Blanche Bay, West Cote Blanche Bay, Vermilion Bay, Marsh Island, Rainey Wild Life Sanctuary, Chenier au Tigre, Grand Chenier, and Belle Isle Lake in Vermilion Parish; north to False River in northern West Baton Rouge Parish, Lake Providence, Monroe, Black Lake Bayou in Bienville Parish, and Lake Bistineau. It is chiefly a tran-

sient in the northern part of the State, most frequently observed along the Mississippi River in northeastern Louisiana. It frequents the bays, bayous, lakes, and larger streams, and is one of the ducks that have greatly decreased in recent years.

Specimens in the museum of Tulane University at New Orleans are from Lake Catherine, February 14, 1885; and from the shores of Lake Pontchartrain, near New Orleans, January 21, 1894. W. M. Sprinkle records several hundred individuals feeding about Chandeleur Island, December 14, 1912; at Freemason Island, January 1, 1914; at Errol Island, January 14, 1914; and on Breton Island, January 17, 1911. W. T. Helmuth noted a flock of these birds on South Pass in the Mississippi River Delta, March 22, 1918. It is seen only sparingly in winter on the Rainey Wild Life Sanctuary, where the writer saw ten birds on the lake near the club house, January 23, 1928. A. M. Bailey reports a few killed by hunters at Chenier au Tigre, December 8 to 18, 1925, and a few taken at Belle Isle in Vermilion Parish in December, 1925. George H. Lowery, Jr., considers it common in winter in the Baton Rouge region; and observed it on False River, December 31, 1934; J. S. Campbell records it from Black Lake Bayou in Bienville Parish and Lake Bistineau in the autumn of 1933.

RING-NECKED DUCK

Perissonetta collaris (Donovan) "

This bird, about the size of the Lesser Scaup Duck, and of similar coloration, may be easily distinguished from that bird by its dull gray instead of white wing-patch.

It is mostly a fresh-water duck, living on the ponds, lakes, sloughs of the interior, and on the fresh-water ponds and lagoons of the coast regions. This bird is swift of flight and moves usually in small flocks, although sometimes thousands are found together, particularly during the winter. It is a good swimmer and an excellent diver, and obtains much of its food by the latter method, although it

⁴⁴*Nyroca collaris* of the 1931 A. O. U. Check-List.

does feed by dabbling along the shallow margins of the water, particularly where there is considerable vegetation.

Its food consists of the seeds, bulbs, leaves, and other parts of water plants such as wild rice and pondweeds, together with water insects and their larvae, snails, crawfishes, small frogs, and small fishes.

The nest of this duck is placed on the ground in a marsh or wet meadow, sometimes built up in the water, and usually well concealed by the surrounding vegetation. It is a rather bulky structure composed of various kinds of grasses and lined with down. The usually 8 to 12 eggs are pale olive buff and very closely resemble those of the Lesser Scaup Duck.

The Ring-necked Duck is a fairly common, locally common, winter resident, from October 15 to April 26, in practically all of Louisiana. It has been reported north to Liberty Hill and Bienville; west to Cameron Parish; south to the Florence Club 16 miles south of Gueydan, the Rainey Wild Life Sanctuary, Avery Island, Avoca Island, Lake Felicity, and the mouth of the Mississippi River; and east to Main Pass in the Mississippi River Delta, New Orleans, Lake Pontchartrain, Lake Catherine, New Roads, Moreauville, and Hamburg. It is not so often seen in the northern part of the State, especially during the winter. It frequents the bayous, swamps, lakes, and the passes of the Mississippi River Delta, often associated with the Lesser Scaup Duck. It was evidently in former years much more numerous than at the present time.

Specimens in the museum of Tulane University were taken at Bayou Des Allemands, January 20, 1893; on the shore of Lake Pontchartrain near New Orleans, November 15, 1875, and on Lake Pontchartrain, November 12, 1875. The writer has also examined a specimen collected at Liberty Hill, April 26, 1933, by J. S. Campbell; and one at Morgan City, October 31, 1925, by Arthur Svihla. W. L. McAtee obtained it at Lake Roseau near Hamburg, February 11, 1910; J. B. Mattason at Hamburg, December 10, 12, 14, 16, and 20, 1912, and at Moreauville, December 1, 1912.



RING-NECKED DUCKS (*Perisyonetta collaris*) AND A FEW OTHERS.
Rainey Wild Life Sanctuary, La., January 1, 1934.
(Photograph by A. M. Bailey and F. R. Dickinson.)

Stanley C. Arthur secured it at the mouth of the Mississippi River, December 4, 1924; and E. B. Cognevich at Quarantine (Cubit's Gap) in the Mississippi River Delta, November 11, 1911, December 18 and 25, 1911. It is one of the less common ducks in the Mississippi River Delta. The writer saw 100 individuals on Willow Pass, December 20, 1932; but only a few on the Pass a Loutre Hunting Preserve, January 23, 1932; near the Delta Duck Club on Octave Pass, January 19, 1928; and at Chateau Canard on Main Pass in the Mississippi River Delta, January 19, 1928. J. S. Campbell saw eight at Pool's Pond near Bienville, October 28, 1933. H. H. Kopman reported it as fairly common on False River at New Roads in Pointe Coupee Parish, December 15, 1917; and the writer noted it at the Florence Club 16 miles south of Gueydan, December 29, 1932; at Avery Island, December 28, 1932; and on Lake Felicity, December 23, 1932. On the Rainey Wild Life Sanctuary, 300 were seen, January 23, 1928; and at Avoca Island over 650 on January 28, 1932. George H. Lowery, Jr., reported several birds observed in Cameron Parish about January 1, 1938.

CANVASBACK

Aristonetta valisineria (Wilson)⁴¹

Few ducks have so great a reputation for excellence of their flesh as food as has the canvasback, but, except under certain unusual circumstances, the taste of its flesh is really inferior to some of its near relatives. On account of its perhaps over-publicized excellence as food, and for other reasons, it has much more than ordinary attractiveness for sportsmen and naturalists.

In general appearance it is a dull red-headed duck with a long bill, whitish back, and blackish breast. It is a truly American duck, being confined to North America, breeding in the middle and more northern parts of the continent, except in the east, and migrating to Mexico and to the Gulf of Mexico for the winter. In days gone by, during the months of October and November, the Canvasback,

⁴¹*Nyroca valisineria* of the 1931 A. O. U. Check-List.

both in the eastern United States and along the Gulf Coast, swarmed in almost countless thousands over the waters of the bays and lagoons. Today, however, the species is greatly reduced in numbers, and particularly is this noticeable along the Gulf Coast, as, for instance, in Louisiana and Texas.

Wherever the wild celery grows in fresh, or nearly fresh, water along the coasts, the Canvasback is likely to be found, since this is one of its favored foods. Wild celery grows in relatively shallow water, but in order to obtain the roots the birds must dive for them. Whenever the bird feeds on this diet it acquires a very delicate flavor, but without this food, and when it lives on various other water plants, seeds, and mollusks, small fishes, and various other water animals, its flesh is not nearly so good.

Although a heavy bird its flight is strong and well sustained, and it is a marvelous swimmer and diver. When engaged in feeding or resting on the water, the Canvasback seems to be protected by sentinel birds that give the alarm whenever an enemy approaches. In the interior of the country it feeds and rests, as well as breeds, on the prairie ponds and smaller bodies of water. Along the larger bays of the coast there is a more or less regular daily movement to and from the feeding grounds. On these flights it travels very much as during migration, in small, wide extending parties of more or less geometrical outline.

As many sportsmen have discovered, the Canvasback is a shy duck, and there is need for much strategy on the part of the duck hunter successfully to lure the bird within range. Like many other ducks it can be frightened away from a particular locality by too much shooting, and this, in part, may be the reason for its absence at the present time in certain places along the coasts where it was formerly abundant.

This duck places its nest in the tall grass or rushes along the edge of some pond or lake or stream. It is usually situated in shallow water, and ordinarily rests on the bot-

tom. It is a bulky structure, composed of rushes, grasses, small twigs, and lined with feathers and down, apparently sometimes taken from the breast of the female. Notwithstanding its bulky character the nest is usually well and strongly built. There are usually six to ten eggs of a grayish green or greenish buff color.

The Canvasback is a fairly common, locally common, winter resident, from November 7 to May 6, in southern Louisiana, from the mouth of the Mississippi River, Morgan City, Vermilion Bay, Avery Island, Rainey Wild Life Sanctuary, Chenier au Tigre, and probably the lower Sabine River, north to Lake Catherine and New Roads in Pointe Coupee Parish; and a rather uncommon winter visitor and transient in northern Louisiana, recorded north to Lake Bistineau. It frequents the lakes of the interior, the coast prairies, and the waters of the Mississippi River Delta, even to the edge of the Gulf of Mexico. It was formerly abundant, but is now greatly reduced in numbers, and there are perhaps not more than a relatively few thousands wintering in the State each year.

This species was collected in the Mississippi River Delta at Cubit's Gap, February 10 to 14, 1910, and in March, 1910, by E. B. Cognevich; at Chateau Canard on Main Pass, January 20, 1930, by Joseph Leiter; at the Delta Duck Club on Octave Pass, November 22, 1925, and January 16, 1926, on Main Pass, January 30, 1910, and on Twenty-seven Pass, February 3, 1910, by W. L. McAtee. In this region it is probably at the present time more numerous than anywhere else in the State. The writer saw a few on Octave Pass on January 19, 1928, and January 22, 1932; also on Dead Woman Pass, December 18, 1932; Willow Pass, December 20, 1932; and much larger numbers on Gasper Pass and Main Pass, December 19, 1932. He found it numerous also on the Rainey Wild Life Sanctuary, January 22 and 23, 1928; and a few at Avery Island, December 28, 1932. A. M. Bailey noted a few in the vicinity of the West Chenier Lakes near Chenier au Tigre, November, 1916, and March 6, 1918; and abundant there, December 8 to 18, 1925. J. B. Mattason collected it at Moreauville, November 15 and 22, 1912; and

Stanley C. Arthur at Lake Catherine, November 7, 1925. H. H. Kopman reported it fairly common on False River near New Roads, December 15, 1917; and Arthur Svihla noted it at Morgan City on September 25, 1925. J. S. Campbell states that it is rare at Lake Bistineau but that a few are killed there each winter.

AMERICAN GREATER SCAUP DUCK

Fulix marila nearctica (Stejneger)⁴²

The American Greater Scaup Duck is a rare winter resident, from November 2 to January 22, reported from the Mississippi River to Vermilion Parish, and north to New Orleans and Avery Island. There are very few definite records of this species for the State, and in the field it is often confused with the Lesser Scaup Duck.

A specimen in the Biological Survey collection in the United States National Museum was collected at Avery Island, December 13, 1929, by E. A. McIlhenny. Examples were also taken by G. A. Hillery at Carlisle, November 2, 1919, and December 7, 1919. The writer observed three on the Rainey Wild Life Sanctuary, January 22, 1928; and 22 at Avery Island, December 28, 1932.

The Greater Scaup Ducks inhabiting North America are subspecifically distinguishable from those of the Old World. While there is apparently no significant difference in size, the American bird has the middle portion of the outer webs of all but the three outer primaries whitish or white, which areas in the European bird are dull brownish, or at most light brown. While this character is most evident in the males it holds good also in the females in that the feather areas in question are distinctly lighter in the American bird than in the other.

The breeding range of the American Greater Scaup Duck is in Alaska, and northern to central southern Canada; and the winter distribution extends from southern Alaska and Maine south to Lower California, Texas, Louisiana, and Florida.

⁴²*Nyroca marila* of the 1931 A. O. U. Check-List.

This now recognizable race was long ago separated as *Aythya marila nearctica* by Leonhard Stejneger,³ who based his name on the "American subspecies"; and his type, subsequently selected, is an adult male, No. 89226 of the United States National Museum Collection, collected at Bristol Bay, Alaska, May 1, 1882, by Charles L. McKay, original number 96. The American Greater Scaup Duck would, therefore, be called *Fulix marila nearctica*.

Perhaps the reason for the disuse of this subspecific name is that in the original description the difference between the two races was stated to be the color of the "inner" webs of the primaries, whereas the real character is in the outer webs.

LESSER SCAUP DUCK

Fulix affinis (Eyton)⁴

This is one of the most abundant and best known of our ducks. Its rather small size, black head and neck, with conspicuous bluish gray bill, light colored back, and wings with a conspicuous white patch, serve to distinguish it among North American ducks. The female is brown where the male is black.

This duck frequents the swamps, marshes, lakes, and other water areas of the interior during the summer and migration seasons, but in winter it concentrates mostly in the coastal regions. It assembles sometimes in enormous flocks, which may or may not associate with other ducks. Unfortunately this bird is not nearly so abundant today as it used to be. It is fond of resting on the water in great rafts, where, as it frequently stays far away from the shore, it is reasonably safe from hunters and enemies. Its flight is swift and well sustained, although it has some difficulty in rising from the water. It is an excellent diver and obtains much of its food in this way.

It feeds, to a considerable extent in fresh water, and on wild rice, the seeds and other parts of such plants as bayberry, burreed, and saw-grass; on snails, small oysters,

³Bull. U. S. Nat. Mus., No. 29, Dec. 16, 1885, p. 161 (in text).

⁴*Nyroca affinis* of the 1931 A. O. U. Check-List.

and other mollusks, crawfishes, tadpoles, small fishes, worms, and water insects and their larvae.

The nest of the Lesser Scaup is placed on the ground, either on moist prairie or in a marshy place, or even on dry ground. It is ordinarily well concealed, and composed chiefly of dry grass and similar vegetable materials, and lined with down, feathers, and sometimes fine grass. The usually 9 to 12 eggs are olive buff, and are hatched by the female in three or four weeks. The handsome downy young are solicitously cared for by the female as soon as they are able to follow her about.

The Lesser Scaup Duck is a winter resident, from October 12 to May 27, chiefly in southern Louisiana; reported from the Chandeleur Islands, Lake Borgne, the Mississippi River Delta, Grand Isle, Chenier au Tigre, Avery Island, and Cameron Parish; north to Lake Pontchartrain, Napoleonville, Lake Providence, and Oak Grove in West Carroll Parish; formerly very abundant, but now common, only locally abundant. It frequents the inland lakes and bayous, as well as the more open waters of the Gulf Coast.

This species was taken by E. J. Trinchard at Lake Borgne Pond in Lake Catherine, February 4 and 13, 1910; by G. A. Hillery at Carlisle, January 11, 1920, November 2, 1919, and December 7, 1919; by E. G. Wright at Avery Island, May 17, 1930; also banded birds were killed at Golden Meadow, December 6, 1931, and at Napoleonville, December 3, 1926. Eugene M. Boring found it common at Lake Catherine, November 20 and December 16, 1932; A. K. Fisher at Chef Menteur, November 2 and 3, 1919; and H. H. Kopman saw a few at Belair, October 21, 1917. W. M. Sprinkle reported it present in numbers at Chandeleur Island, January 12, 1916; at Freemason Island, January 26, 1914; Sundown Island and Martin Island, January 22, 1914; Mitchell Island, January 23, 1914, and November 10, 1914; Errol Island, January 25, 1914; Breton Island, November 28, 1916; Battledore Island, January 24, 1914; and Hog Island, February 10, 1915. He noted only a few at North Island, October 12, 1914; and at Old Harbor Key, May 27,

1911. Ambrose Daigre observed this duck at Grand Isle on April 11, 1936. Along the lower Mississippi River from Ostrica to Myrtle Grove the writer noticed a small number on January 24, 1932. In the Mississippi River Delta he met with a few on Pass a Loutre and Johnson Pass, December 17, 1932; and near the Delta Duck Club on Octave Pass, January 22, 1932, but the species was not common in this region. He saw some 4500 birds of this species on Lake Salvador, January 26, 1932, which is a larger number than he has personally observed anywhere else in the State at any one time. He found it present in considerable numbers on Bayou Des Allemands in La Fourche Parish, December 24, 1932, and saw some near New Orleans, January 21, 1932. It was fairly common on Lake Barre, December 22, 1932; on Drum Lake (Lake Tambour), December 23, 1932; also on Atchafalaya Bay, January 29, 1932. The writer saw only a few, however, on Little Caillou Bayou in Terrebonne Parish, December 24, 1932; on the Atchafalaya River between Morgan City and Little Wax Bayou, January 28, 1932; as well as on West Cote Blanche Bay, January 29, 1932; but found it common on Vermilion Bay, January 29, 1932; at Avery Island, December 28, 1932; and on the Rainey Wild Life Sanctuary, January 22 and 23, 1928. He detected a small number at Grand Chenier, December 31, 1932; and a single individual on the lower Vermilion River below Abbeville, January 30, 1932. A. M. Bailey recorded it abundant at Chenier au Tigre, December 8 to 18, 1925; and W. L. McAtee considered it common at Cameron in Cameron Parish, November 28 to December 6, 1910; but the writer saw only two at Mud Lake in southwestern Cameron Parish on January 26, 1928. J. S. Campbell noted 86 at Oak Grove on December 23, 1934; and a single bird at Pool's Pond, near Bienville, March 18, 1934. Specimens of this duck were taken by A. M. Bailey at White Lake on February 7 and 9, 1919.

AMERICAN GOLDENEYE

Glaucionetta clangula americana (Bonaparte)

The American Goldeneye is a rare winter resident, from late autumn to May, in southern Louisiana, chiefly from the

Mississippi River and Cat Island, Mississippi, west to the Rainey Wild Life Sanctuary in Vermilion Parish; and a rare transient in central and northern Louisiana, chiefly in the vicinity of the Mississippi River, but noted west to Monroe.

The writer has examined specimens in the museum of Tulane University taken on Lake Washa, near New Orleans, December, 1875; and in the museum of the Louisiana Department of Conservation at New Orleans, from Golden Meadow, December 14, 1931. A single individual was seen by Ned Hollister on Bear Lake eight miles northwest of Tallulah, March 6, 1904; and George H. Lowery, Jr., reports it rare at Monroe. T. Gilbert Pearson gives it as not common on the Rainey Wild Life Sanctuary. A single bird was taken by Stanley C. Arthur at the mouth of the Mississippi River, December 7, 1924. The writer saw two at Avery Island, December 28, 1932; 12 on Drum Lake (Lake Tambour), four on Little Lake, three on Deep Lake, and one on Lake Felicity, all in Terrebonne Parish, December 23, 1932. William Lea collected one bird in Cameron Parish on December 5, 1919.

BUFFLEHEAD

Charitonetta albeola (Linnaeus)

This duck is one of the most beautiful and at the same time one of the smallest of our North American waterfowl. Its black plumage, with a large white patch on the side of the head will readily distinguish it in the male from almost any other duck, except perhaps the Goldeneye, and even from this it is readily separated on account of the lack of a white spot in front of the eye, and the presence of white on the side of the hind head. It is unfortunately one of the least common of our ducks, and one that needs careful protection in future. It is sometimes called 'spirit duck'; and often 'butterball'.

It lives in the vicinity of ponds, lakes, streams, and other bodies of water in the interior, and also on the bays and lagoons in the coastal areas. At times it assembles into flocks of considerable size, although these are usually

not as compact as those of some of the other ducks, but it often flies singly or in very small flocks. Its flight is very swift and strong, and it rises easily from the surface of the water without the effort that some of the other larger ducks have to exert. It is a rather silent bird, although it does have a low note. It is a remarkable diver and can swim under water easily without the use of its wings, although perhaps it sometimes uses them to increase its speed. It obtains its food by diving, and sometimes descends to a considerable depth to obtain food from the bottom.

The diet of this duck consists of bivalves, snails, other mollusks, shrimps, small fishes, crawfishes, leeches, and crustaceans, together with grasshoppers, beetles, and other insects, and also various kinds of water plants.

The Bufflehead is one of the relatively few ducks that build their nests in hollows in trees and in similar places. It is more or less an inhabitant of wooded areas during the summer, usually not far from the water. The nest is ordinarily in a natural hole of a tree or in an old woodpecker's hole. Sometimes, particularly when the nest is in a woodpecker's hole, little or no nesting material is used, except the small chips or fine pieces of wood that are commonly seen in a woodpecker's nesting cavity. The 10 to 12 eggs are pale yellowish or pale olive buff.

The Bufflehead is a rare winter resident, from November 12 to March, from Lake Borgne, the Mississippi River Delta, and Vermilion Parish; reported north to Lake Providence Oak Grove in West Carroll Parish, Monroe, Black Lake Bayou in Bienville Parish, and Lake Bistineau. Here it frequents chiefly the lakes, bayous, and larger streams, and was apparently in former times much more common than at the present day.

Specimens in the museum of Tulane University at New Orleans, identified in the present connection, were taken at Lake Catherine, February 7, 1888 (two birds); and December 24, 1886; Lake Borgne, December 2, 1886; Mandeville, November 12 and 18, 1881; Raceland, December 10, 1890; and New Orleans in 1889. Henry W. Henshaw took a single

bird at Lake Borgne in March, 1871; and Ambrose Daigre, two females on Pass a Loutre in the Mississippi River Delta, November 30, 1934. George H. Lowery, Jr., reported it fairly common at Monroe; and J. W. Trahan noted it on the State Wild Life Refuge near Abbeville, November 30, 1916. The writer observed nine individuals on the Rainey Wild Life Sanctuary, January 23, 1928; a few at Avery Island, December 28, 1932; on Deep Lake in Terrebonne Parish, December 23, 1932; and on Lake Salvador, January 26, 1932. J. S. Campbell found 26 at Oak Grove in West Carroll Parish on December 23, 1934. He considers the species fairly common in winter on Lake Bistineau and Black Lake Bayou.

OLDSQUAW

Clangula hyemalis (Linnaeus)

The Oldsquaw is a casual winter visitor, from November 15 to May 3, in southern Louisiana, mostly in the coastal waters.

The writer has been able to find the following records for the State. One specimen taken on Lake Catherine, February 28, 1885, by Gustave Kohn,⁴⁵ is still in the museum of Tulane University at New Orleans. Another was obtained on Bayou Barataria, 20 miles west of New Orleans, February 13, 1899; a female at Grand Chenier, February, 1917; another female at Grand Isle, April 4, 1921, by E. S. Hopkins; another at the same locality, May 3, 1922, by the same collector; a male at the Delta Duck Club, January, 1927, by C. S. Harris; still another male at the same locality, December, 1928, reported by E. S. Hopkins; a female in Cameron Parish, January 22, 1929, by E. S. Hopkins; and a female at the Orange-Cameron Land Company's ranch, January 28, 1929, taken by Willard Smith. George H. Lowery, Jr., saw a single bird on City Park Lake, Baton Rouge, November 15, 1933.

EASTERN HARLEQUIN DUCK

Histrionicus histrionicus histrionicus (Linnaeus)

The Eastern Harlequin Duck is an accidental winter visitor on the coast of Louisiana.

⁴⁵Amer. Nat., Vol. XIX, No. 9, September, 1885, p. 896.

The only record for the State is by John James Audubon, and though entered in his journal was not published by him. Frank M. Chapman⁴⁶ made available this interesting record which he discovered by examination of Audubon's journal. When Audubon was in the Southwest Pass of the Mississippi River Delta, under date of April 1, 1837, he wrote this statement: "Saw a pair in perfect plumage".

WHITE-WINGED SCOTER

Melanitta deglandi (Bonaparte)

The White-winged Scoter is an accidental winter visitor on the coast of Louisiana.

A young male was taken a few miles south of Cameron Farm which is in Cameron Parish, 14 miles south of Vinton, during the latter part of December, 1924, by Elmer Bowman.⁴⁷ There is also a male specimen in the museum of Tulane University, killed on the Sabine River in Calcasieu Parish, March 1, 1900.

SURF SCOTER

Melanitta perspicillata (Linnaeus)

The Surf Scoter is an accidental winter visitor in southern Louisiana.

There is but a single record for this species, a male shot on Bayou St. John, near New Orleans, March 20, 1890, and now in the Gustave Kohn collection in the museum of Tulane University, at New Orleans, where it has been recently examined.

AMERICAN SCOTER

Oidemia americana Swainson

The American Scoter is an accidental winter visitor in southeastern Louisiana.

There is apparently but one record for the State, a specimen taken near Lake Catherine, and formerly in the collection of Gustave Kohn.⁴⁸ This specimen the writer has not been able to find.

⁴⁶Bird-Lore, Vol. II, No. 5, October 1, 1900, p. 158.

⁴⁷Bailey, The Auk, Vol. XLII, No. 3, July, 1925, p. 442.

⁴⁸Beyer, Proc. La. Soc. Naturalists, for 1897-1899 (1900), p. 90.

RUDDY DUCK

Erismatura jamaicensis rubida (Wilson)

Probably no duck has so many different names as this well-known bird. Some of those commonly heard are 'butterball', 'dipper', 'booby', 'sleepyhead', 'spiketail', 'bullneck', and 'Johnny bull'. The application of many of these names is obvious, but some of them are purely fanciful. Like many other ducks the Ruddy Duck is known by names that are common to other species. It is otherwise a peculiar bird, having no very close relatives in North America.

It is a handsome bird with rich chestnut plumage and a big white patch on each side of the head in the male, but the female is a dull brown bird that might be mistaken for a number of other ducks. In addition it has a bright grayish blue bill, and a short tail held erect, which characters make it easily identifiable almost anywhere.

This duck lives in the summer in the interior, and during the winter frequents mostly the coastal marshes, bays, and inlets, where, in some localities, it is present in great numbers, although in recent years it has greatly decreased. It is one of the swiftest flying of all ducks, and has the habit of skimming along close to the surface of the water, at a little distance looking more like a giant bumblebee than a duck. It flies, however, often at considerable altitudes, but usually not in compact, though sometimes in large, flocks. It is a fine swimmer and a remarkable diver, but it has difficulty in rising from the water, pattering along the surface with its feet until it is able to mount into the air.

The Ruddy Duck obtains much of its food from the bottom of the water by diving, and it lives chiefly on vegetable material such as the roots, seeds, leaves, and stems of grasses and other aquatic plants, like wild rice, duckweed, pond lilies, and flags. The animal portion of its food consists chiefly of snails, mussels, worms, small fishes, and insects.

The nest is placed in fresh water ponds and lakes, usually in rather shallow water, where the bird builds up

a bulky structure several inches above the surface of the water, and anchored to the surrounding vegetation. Sometimes the growing reeds or rushes are arched over to form a canopy, and the nest is almost always well concealed. The materials consist of rushes, reeds, or flags, with finer materials of the same kind for lining. The eggs are large for the size of the bird, usually six to nine in number, though sometimes as many as 20, white, with a rather unusually thick shell, and a rough surface.

The young are well taken care of by the female; and the male is much more attentive to them until they are able to fly than is the male of many species of ducks. The young are very active and strong, and dive well at an early age, even obtaining some of their food in this way, which is unusual for young ducks.

The Ruddy Duck is a not uncommon winter resident, from October 24 to January 25, and probably later, throughout Louisiana, but most frequently observed in the southwestern part of the State; recorded north to Lake Providence, Oak Grove in West Carroll Parish, Black Lake in Natchitoches Parish, and Lake Bistineau; west to Cameron Parish; south to southwestern Cameron Parish, the State Wild Life Refuge near Abbeville, Avery Island, Dead Woman Pass and Willow Pass in the Mississippi River Delta; and east to Main Pass in the Mississippi River Delta, Caernovan, and Lake Catherine. It was formerly very much more numerous, and at the present time it appears usually in only small companies.

A. M. Bailey noted it on November 1, 1928, in Cameron Parish; and the writer saw 58 birds, of which five were shot, near the club house of the Orange-Cameron Land Company's ranch in southwestern Cameron Parish, January 25, 1928. He observed one in the same region between the club house and the Gulf of Mexico, January 24, 1928. J. W. Trahan reported it from the State Wild Life Refuge, November 30, 1916; the writer found a few at Avery Island, December 28, 1932; and one on Bayou Des Allemands, December 24, 1932. H. H. Kopman examined one that was

killed at Caernovan, November 4, 1917. There are two specimens in the museum at Tulane University, taken at Lake Catherine, December 24, 1886. In the Mississippi River Delta A. M. Bailey met with a few on October 24, 1928; and the writer noted seven on Willow Pass, December 20, 1932; and one on Dead Woman Pass, December 18, 1932. George H. Lowery, Jr., reports it fairly common during migrations and in winter in northern Louisiana; and J. S. Campbell observed 176 at Oak Grove on December 23, 1934; and has found it rare in winter on Black Lake in Natchitoches Parish and on Lake Bistineau.

HOODED MERGANSER

Lophodytes cucullatus (Linnaeus)

This bird, sometimes called the 'hooded shelldrake' or 'sawbill diver', is one of our handsomest ducks. Its large fan-like, mostly white, crest, with a black border, distinguishes it almost instantly anywhere, from other ducks of similar moderate size. The plumage otherwise is mostly black and white.

It is a bird of the streams, lakes, and ponds of the interior during summer, and of the coastal lagoons, bays, and streams in the winter. It has a strong and rapid flight, but it does not gather into such flocks as do many of the other ducks, partly because of its fewer numbers. It is seen usually flying singly, in pairs, or in very small groups, and at times ascending to a considerable height.

This bird does not consume such a large quantity of fish as do the two other mergansers. It subsists largely on crawfishes and other crustaceans, dragonflies, caddisflies and their larvae, and other insects, snails and other mollusks, small frogs, fishes, and some vegetable food, such as the seeds and roots of aquatic plants and a little grain. The flesh is very much more palatable than that of other mergansers.

The mating performance of this handsome bird consists of various motions of the body and crest. The bird breeds chiefly along the dense wooded bottomlands and timbered

swamps, where it places its nest in a hollow in the trunk of a tree, stump, or even a log. Occasionally even a hole in the ground is made use of for this purpose, or even a bird box erected for the purpose. The nest is composed of often a small amount of nesting material, but occasionally there is a considerable quantity of such materials as leaves, grass, and moss, and a lining of down and feathers, or both. The commonly 8 to 12 eggs are white, and are hatched in about 30 days. Since the nest is sometimes at a considerable distance from the ground, it is necessary to bring the young from the nest to the water, and this is done by the mother, who carries the young birds one at a time in her bill down to the water. Thereafter they receive the usually good care from the mother.

The Hooded Merganser is a rare winter resident, from November 30 to April 2, in most of Louisiana, chiefly in the Gulf Coast region and along the Mississippi River, as well as in other parts of the interior about the lakes and along streams; reported north to Lake Providence, Oak Grove in West Carroll Parish, and to Richland Parish; west to Cameron Parish; south to the State Wild Life Refuge near Abbeville, Rainey Wild Life Sanctuary, Chenier au Tigre, Vermilion Bay, Lake Barre, and Lake Felicity; and east to Lake Catherine, False River, and Bayou Sara. Formerly it was apparently much more common than at the present time. It is also a rare summer resident and breeds.

George E. Beyer, Andrew Allison, and H. H. Kopman are authority for the statement that this merganser breeds in the State, and that young have been seen in June.⁴⁹ Robert Butler also reports it breeding in West Feliciana Parish. A few summers prior to 1933 he received two very young juvenal birds at Bains, and kept them until they grew into adult male and female Hooded Mergansers.

E. L. Moseley reported it in Richland Parish, April 2, 1923; George H. Lowery, Jr., says that it is fairly common in autumn at False River in northern West Baton Rouge Parish; J. W. Trahan noted it on the State Wild Life Refuge,

⁴⁹Beyer, Allison, and Kopman, *The Auk*, Vol. XXIV. No. 3, July, 1907, p. 317.

November 30, 1916; and A. M. Bailey met with it at Chenier au Tigre, March 10, 1918, and December 8, 1925; also on Vermilion Bay, November, 1918, when he observed many and collected a few specimens. There is a pair of birds in the museum of Tulane University, taken at Lake Catherine in 1901; and a pair in the museum of the Louisiana Department of Conservation at New Orleans, without data other than that they were taken in Louisiana. George E. Beyer observed ten individuals about December 25, 1905, at Lake Catherine; J. S. Campbell noted two at Oak Grove on December 23, 1934; and the writer saw a few on the Rainey Wild Life Sanctuary, January 23, 1928; two birds on Lake Felicity, and one on Lake Barre, December 23, 1932. A. M. Bailey collected one at Chenier au Tigre on March 15, 1918; and George B. Saunders reports it as of occasional occurrence in the Sabine Migratory Waterfowl Refuge (the Orange-Cameron Land Company property) in Cameron Parish.

AMERICAN MERGANSER

Mergus merganser americanus Cassin

This is the largest merganser of the United States, and it is closely allied to the European bird. In general appearance it is much like the Red-breasted Merganser, but its under parts lack the reddish brown breast. Some of the other names by which it is called are 'goosander' and 'fish duck'. Like the other mergansers it has a long slender bill, with sharp tooth-like projections which make the jaws look like miniature saw blades.

It lives both in fresh and salt water, although it nests mostly in the interior. It inhabits the vicinity of lakes, ponds, and streams of the interior, as well as the bays, lagoons, and other waters of the seacoasts. At times, particularly in the winter, it assembles into flocks of large size. It is a silent bird and rarely ever is heard to utter any sound. Its flight is strong and rapid, and it has the habit of flying, like the other mergansers, low over the water, even when a considerable number are moving

together. Like many other ducks it has difficulty in rising from the water, and must get a good start before it is finally on the wing. It is a remarkable diver, somewhat like the Loon in this respect; and it also swims swiftly, either on the surface of the water or submerged. In this way it obtains much of its food, for it lives almost entirely on fishes of various kinds. Sometimes it takes fishes of considerable size.

In addition to fishes it devours various kinds of mussels and other mollusks, swallowing them without discarding the shells. It also at times eats decayed fish, likewise crawfishes and other crustaceans, salamanders, frogs, worms, snails, and various water insects; and even roots and other parts of water plants.

This merganser has fully as remarkable a mating performance as has the Red-breasted Merganser. The males swim and splash the water, diving and pursuing their rivals, and spread themselves out for the admiration of the females, sometimes rising almost vertically in the air, flapping the wings, and keeping the tail spread, then raising the head until it is pointing upward at a sharp angle, then bowing again and again. All this and much more is continued until the female indicates her acceptance. This bird nests either in cavities in trees or on the ground, sometimes under the roots of a tree or in a cavity under a rock, where the nest is more or less protected. The nest material consists of grasses, roots, and weeds, lined with down. The usually 9 to 12 eggs are pale buff. Like many other ducks the female performs the duty of incubation, and also takes practically sole care of the young, since the male absents himself from the female and gathers with the other males to pass the time apart.

The American Merganser is a rare winter resident, from October 24 to April 19, casually to June 3, on the lakes and other coastal waters of southern Louisiana, from the lower Mississippi River near the Delta, west to Grand Isle, Deep Lake, Little Lake, Lake Felicity, West Cote Blanche Bay,

Marsh Island, and the Rainey Wild Life Sanctuary; and north to Grassy Island in Lake Borgne. It is apparently less numerous than formerly.

J. W. Trahan reported this species near Abbeville on October 24, 1916; and T. Gilbert Pearson considers it a winter resident on the Rainey Wild Life Sanctuary. Ambrose Daigre observed it at Grand Isle on April 19, 1936. E. S. Hopkins found it rather common on Barataria Bay during the winter and until late in April. The writer observed a single individual on Marsh Island, and six on Cote Blanche Bay, January 30, 1932; two on the lower Mississippi River, between Pointe a la Hache and Pilot Town, on January 21, 1932; and two between Ostrica and Myrtle Grove on January 24, 1932. He also saw three on Lake Felicity, two on Little Lake, and one on Deep Lake, December 23, 1932. A single individual that the writer ran upon at Grassy Island in Lake Borgne on June 3, 1933, evidently was a cripple or a bird that for some other reason had failed to migrate.

RED-BREASTED MERGANSER

Mergus serrator serrator Linnaeus⁸⁰

The Red-breasted Merganser, or, as it is often called, 'sawbill' or 'hairycrown', has, as its name indicates, a reddish brown breast; and otherwise, in general appearance, it is much like the American Merganser, although smaller, the neck and head of the male dark metallic green, and that of the female brown.

This bird lives both in the interior and along the coast, nesting mostly in the interior, but sometimes on coastal islands. It lives along streams and about the various bodies of water, where its food is to be obtained. At times during the winter, particularly along the coast of the ocean, the Red-breasted Merganser congregates in large numbers, sometimes many thousands. The bird has some difficulty in rising from the water, and uses its feet to aid the rapid movement of the wings to enable it to get under way. Once on the wing, however, its flight is strong, and al-

⁸⁰*Mergus serrator* of the 1931 A. O. U. Check-List.

though it often rises to a considerable height it likewise often flies low over the water, even close to the surface. It is a fine swimmer and excellent diver. On land, however, it is rather awkward in gait. It hunts its food in the water, often by swimming underneath the surface, without the aid of its wings, although at times it makes use of them to increase its speed.

In food habits this merganser is largely a fish-eater, but it takes also mollusks, crawfishes, and other crustaceans.

The courtship of this merganser is rather a remarkable performance, and sometimes engaged in by several males which are individually endeavoring to charm a single female. It consists of various movements of the head, body, and wings, and is accompanied by a number of loud, rough notes. Notwithstanding the fondness of the Red-breasted Merganser for the seacoast during the winter, this bird breeds chiefly in the interior along ponds, rivers, and lakes. The nest is situated on the ground and is usually protected by some overhanging branches of trees or roots, or is even under a fallen tree or mass of driftwood. The nest itself is usually in a depression and well concealed, and is composed of grass and sometimes lined with down and fine grass or rubbish. The usual eight to ten eggs are pale olive buff, and are hatched in about four weeks. The female performs all of this work and takes most of the care of the young, but the male assists in the latter parental duty. Sometimes the mother offers her back as a resting place for the downy young.

The Red-breasted Merganser is a winter resident from October 25 to late April, casually to June 22; reported north to Lake Providence and Black Bayou Lake near Monroe; west to Vermilion Parish; south to the State Wild Life Refuge, Rainey Wild Life Sanctuary, Vermilion Bay, Grand Isle, Main Pass in the Mississippi River Delta; and east to Main Pass, Battledore Island, Errol Island, Chandeleur Island, Freemason Island, Martin Island, Lake Catherine, and False River. It is a common species, formerly locally abundant,

in the Gulf Coast region and its waters but much less frequent in the interior about streams and lakes. It sometimes occurs in flocks of considerable size.

A specimen in the museum of Tulane University at New Orleans was taken at Lake Catherine, December 23, 1900; and George E. Beyer observed the species there on Christmas, 1905. W. M. Sprinkle reported it numerous at Martin Island, January 12, 1914; Freemason Island, February 26, 1915; Chandeleur Island, January 9, 1913; at Errol Island, December 31, 1913; and on Battledore Island, December 10, 1913. A. M. Bailey noted it on Main Pass in the Mississippi River Delta, October 25, 1928; and the writer saw a single individual at Pilot Town, December 19, 1932. E. S. Hopkins considered it very common about Grand Isle during the winter months, leaving there late in April; and A. M. Bailey collected a specimen at this locality, March 15, 1919; and another on Vermilion Bay, November 20, 1916. George H. Lowery, Jr., reports it a common species at False River in West Baton Rouge Parish, where he saw several hundred individuals on December 13, 1934. J. W. Trahan listed this merganser from the State Wild Life Refuge, November 30, 1916; and the writer observed several individuals on the Rainey Wild Life Sanctuary, January 23, 1928; and on Lake Barre and Lake Felicity, December 23, 1932. A single bird, seen on Bayou Penelle in Terrebonne Parish by the writer, June 22, 1933, was apparently another case of either delayed migration or of a crippled bird. A. M. Bailey collected specimens at Lake Borgne on March 12 and 23, 1917.

Order FALCONIFORMES

Family CATHARTIDAE

EASTERN TURKEY VULTURE

Cathartes aura septentrionalis Wied

The almost universal name for this vulture is 'turkey buzzard'. This name, as a matter of fact, is a misnomer, because the name 'buzzard' is properly applied to the large hawks, like the Red-tailed Hawk. It is one of our largest birds, sometimes more than six feet in expanse of wings,

and two and one-half feet in length. With the exception of its dark reddish head it is clothed in dark brown. It has a wide distribution in the United States, and is in most localities common, although most numerous in the southern states. On account of its size and the frequency of its occurrence, it is one of our best known birds.

It lives almost everywhere on uplands and lowlands, and even in the mountains. At times, particularly when attracted by a supply of food, it assembles into flocks of considerable size and fights with the eagles and Black Vultures for its share of the available food. Walking about on the ground it has somewhat the bearing of a turkey, and this, together with its size and red head, have suggested the name Turkey Vulture. In flight it is one of the most remarkable of our birds, since, owing to its wide wing expanse, it is capable of maintaining itself in the air for long periods with but little effort, soaring about often so high in the air as to be scarcely visible, or low over the tree tops or open fields. It is a practically voiceless bird, the only note that it utters at rare intervals is a rather low hiss or a scarcely audible grunt.

In food habits it is one of the most conspicuous of bird scavengers, living almost exclusively on dead animals, even those in an advanced stage of decay. Sometimes it has been known to attack wounded animals that were unable to offer resistance, but ordinarily it does not disturb healthy animals. Occasionally, however, it does attack young pigs and chickens, or even young herons and ibises. Birds, mammals, reptiles, and other animals, are eaten indiscriminately. Much has been written to prove that the Turkey Vulture locates its prey by sight or by smell. The facts, however, go to show that it uses either one or both of these methods, but neither to the exclusion of the other.

This vulture makes its nest in caves or hollow stumps, under rocks, a fallen log in the woods, or in similar places, where the eggs can be protected and concealed from enemies. Occasionally it has been known to place its nest in a brush heap or even in a hollow in the top of a high

tree. Little or no material is used, and this is usually fine bits of decayed wood or similar materials, though usually the eggs are placed on the ground or in a cavity, without attempt at nest building. The eggs are nearly always two, rarely one or three, and are white, handsomely marked with blotches and spots of dark brown and drab. The young, which remain in the nest until they are able to take care of themselves, are fed, at first at least, by regurgitation, the young, one at a time inserting their bills into the throat of the parent when feeding is in process.

The Eastern Turkey Vulture is a common permanent resident of general distribution over the entire State of Louisiana, from all the Gulf Coast region to the northern border; reported north to Lake Providence, Oak Grove in West Carroll Parish, Mer Rouge, Monroe, Bienville, Foster, and Belcher; west to Caddo Lake, Lake Hayes (ten miles west of Shreveport), Logansport, Many, Leesville, Longville, and Black Bayou in northwestern Cameron Parish; south to southwestern Cameron Parish, Cameron, Calcasieu Pass, Vermilion Bay, Chenier au Tigre, Marsh Island, Lake Felicity, Grand Isle, Ronquille Bay, Shell Island, and Southwest Pass near Burrwood; and east to Pass a Loutre in the Mississippi River Delta, the lower Mississippi River near Buras, Junior, Belair, New Orleans, Lake Catherine, Oaklawn near Lacombe, Mandeville, Madisonville, Hackley, Clinton, St. Francisville, Bains, Simmesport, Frogmore, Ferriday, Waterproof, St. Joseph, Quimby, Tallulah, and East Carroll Parish. It breeds in suitable places all over the State, from March to May; and there is record of eggs as early as March 28.

The single specimen representing the eastern form of this species that has been examined in the present connection was taken at Minden in Webster Parish on August 22, 1934, by George H. Lowery, Jr. This is an immature bird evidently on its breeding grounds; and thus indicates that the Eastern Turkey Vulture breeds to western Louisiana. A. H. Howell noted this vulture at Belcher, February 3 to 8, 1908; at Foster, January 27 to 31, 1908; at Logansport,

August 25 to 27, 1906; at Mansfield, January 23 to 25, 1908, and April 26 to May 3, 1907; and at Natchitoches, January 16 to 21, 1908; at all of these localities a common bird. The writer observed it at Caddo Lake and Cross Lake, June 18, 1933; at Fort Jesup, Many, Fisher, Florien, Gandy, Anacoco, Leesville, Pickering, De Ridder, Longville, and Sulphur, June 19, 1933; and at Lacassine, June 20, 1933. W. L. McAtee regarded it common at Cameron, November 28 to December 6, 1910; and the writer noticed it about the Orange-Cameron Land Company's club house in southwestern Cameron Parish, January 24, 1928; and along Black Bayou in northwestern Cameron Parish, January 24 and 27, 1928.

The writer encountered it at Avery Island, December 28, 1932, and June 21, 1933; all along the lower Vermilion River, January 23, 1928; on Vermilion Bay, January 29, 1932; and on the Rainey Wild Life Sanctuary, January 22, 1928. It was also present, but not in large numbers, on Lake Felicity, December 23, 1932; on Little Caillou Bayou, December 24, 1932; on Bayou Black in Terrebonne Parish and Bayou Chene, January 27, 1932; and the Dupres Canal, June 10, 1933. He found it along the Gulf Coast from Cheniere Caminada to the mouth of Bayou La Fourche, June 9, 1933; and from Ronquille Bay to Shell Island in Plaquemines Parish, June 8, 1933; along the lower Mississippi River from Buras to Venice, December 16, 1932; and H. H. Kopman saw it at Junior, August 4 and 5, 1917. In the delta of the Mississippi River, the writer met with it along Southwest Pass and on Pass a Loutre, June 7, 1933; at the Delta Duck Club on Octave Pass, January 19, 1928; and on Main Pass, December 19, 1932. H. H. Kopman considered it fairly common at Oaklawn near Lacombe, August 17, 1917; and A. H. Howell, at Hackley, February 20 to 24, 1912. George E. Beyer reported in 1891 its breeding at Madisonville, Clinton, and New Orleans; and Edward Butler, at St. Francisville in 1915 and at Bains in 1916. H. H. Kopman remarked it fairly common at Simmesport, August 31 to September 2, 1917; and the writer listed it at Jonesville, Jena, Archie, Utility, Frogmore, Ferriday, Waterproof, St. Joseph,

Newellton, Quimby, and Tallulah, June 16, 1933; and on the Singer Preserve along the Tensas River in Madison Parish 13 miles southwest of Tallulah, June 17, 1933. Vernon Bailey discovered it common at Mer Rouge, June 2 to 7, 1892; and Ned Hollister, abundant in Morehouse and East Carroll parishes, February 11 to March 13, 1904. Eggs of this species were collected by G. Würdemann at Calcasieu Pass in 1854; and by B. H. Brodnax at Brodnax in 1896.

WESTERN TURKEY VULTURE

Cathartes aura teter Friedmann

The recently described Western Turkey Vulture⁵¹ is of apparently only casual autumn or winter occurrence in central southern Louisiana.

To date the only record is a single specimen taken at Morgan City on November 14, 1925, by Mrs. Ruth D. Svihla.

BLACK VULTURE

Coragyps atratus atratus (Meyer)

This bird is often confused with the Turkey Vulture, since in general color appearance it is much the same. However, it may be distinguished by its black head and its rather square instead of rounded tail which is very conspicuous when the bird is in flight. It is a bird of more southern distribution than the Turkey Vulture, and is not generally common north of the southern United States.

The Black Vulture lives in all kinds of country, as does the Turkey Vulture, and even is at home in the streets of towns. It is powerful on the wing, and can soar for hours without effort. It is most frequently seen soaring or flying in the air in its search for food, often in company with the Turkey Vulture. It usually does not appear in large numbers, except when favorable opportunity for food is an attraction.

⁵¹*Cathartes aura teter* Friedmann, Proc. Biol. Soc. Wash., XLVI, October 26, 1933, p. 188.

The food of this bird is very similar to that of the Turkey Vulture, and it thus subsists largely on carrion of all kinds. It is, however, fond of fresh meat, and sometimes under unusual circumstances will attack very young domestic animals. Any dead animal is acceptable, and the bird does not wait for this to become decomposed before taking it as food. Probably both its sense of smell and of sight are used in its search for something to eat.

This vulture breeds wherever it can find good places for concealment, as for instance on uninhabited islands, about marshes or swamps, along rivers, and elsewhere. It builds practically no nest, but lays its eggs on the ground, in a hollow stump, under a log, in a rock or clay cave in a cliff, in a hollow limb above the ground, even in a thicket where the opportunities for concealment are good. The eggs are usually two, white or pale greenish, thickly marked with dark brown and drab. The young are hatched in about four weeks, and both birds assist in the incubation. The young commonly remain at or near the nest until they are able to fly, and are, of course, cared for by the parents meanwhile, and fed chiefly by the regurgitation of predigested food.

The Black Vulture is an abundant permanent resident throughout Louisiana, reported north to Lake Providence, Oak Grove in West Carroll Parish, Mer Rouge, Monroe, Bienville, and Caddo Parish; west to Lake Hayes (ten miles west of Shreveport), Atkins, Mansfield, Natchitoches, Florien, Longville, Vinton, Toomey, Cameron Farm 14 miles south of Vinton, and Black Bayou in western Cameron Parish; south to Gum Cove in southwestern Cameron Parish, Cameron, Grand Chenier, Vermilion Bay, Chenier au Tigre, Little Wax Bayou, Grand Isle, and Cognovich Pass in the Mississippi River Delta; and east to the lower Mississippi River near Pilot Town, Junior, Belair, Boutte, New Orleans, Oaklawn near Lacombe, Mandeville, Madisonville, Hackley, Clinton, St. Francisville, Bains, Simmesport, Jonesville, Singer Preserve in Madison Parish, and Tallulah. It appears often in flocks during both winter and summer, fre-

quently associated with the Eastern Turkey Vulture. It breeds throughout practically all of its range in the State; and there is record of eggs as early as March 6.

Ned Hollister found this species near Mer Rouge, February 11 to 16, and March 16 to 20, 1904, but not as numerous there as the Eastern Turkey Vulture. A. H. Howell noted it at Mansfield, April 26 to May 3, 1907; and common at Natchitoches, January 16 to 21, 1908. The writer saw it at Atkins on June 18, 1933; at Florien, Longville, and Lake Charles, June 19, 1933; at Toomey, June 20, 1933; also fairly numerous on the Cameron Farm 14 miles south of Vinton, June 20, 1933; and along Black Bayou in the northwestern part of Cameron Parish, January 27, 1928. W. L. McAtee reported it common at Vinton, December 31, 1910; Cameron, November 28 to December 6, 1910; and at Gum Cove, January 2 to 5, 1911. The writer noticed it at Grand Chenier, December 30 and 31, 1932, and in greater numbers on Vermilion Bay, January 29 to 30, 1932; a few on Little Wax Bayou, January 28, 1932; at Avery Island, June 21, 1933; and December 28, 1932; along the lower Vermilion River fairly common on January 23, 1928; and still more numerous on the Rainey Wild Life Sanctuary, January 22, 1928. He observed a few on Little Barataria Bayou, June 10, 1933; along Little Caillou Bayou on December 24, 1932; at Broussard, June 21, 1933; Houma, December 22, 1932; at Lottie and Livonia, June 15, 1933. A. M. Bailey collected it at Avery Island on December 4, 1918, and E. G. Wright there on May 13, 1930.

H. H. Kopman considered it common at Junior, August 4 and 5, 1917; at Oaklawn near Lacombe in St. Tammany Parish, August 17, 1917; and at New Orleans, June 22, 1917, to July 9, 1917. George E. Beyer stated in 1891 that it bred at Madisonville and Clinton. Ned Hollister listed it as common at Belair, March 25 to April 8, 1904; and A. H. Howell, at Hackley, February 20 to 24, 1912. In the Mississippi River Delta the writer has seen it on Cognovich Pass, December 18, 1932; and also on the Mississippi River between Pointe a la Hache and Pilot Town, January 21,

1932; and between Pilot Town and Venice, December 20, 1932. Ambrose Daigre observed it at Grand Isle April 26 and 30, 1936. Edward Butler recorded it as breeding at St. Francisville in 1915, and at Bains in 1916; and H. H. Kopman, as common at Simmesport, August 31 to September 2, 1917. It is stated by J. S. Campbell to be common in summer, but less so in winter in Bienville Parish. The writer saw a few individuals also at Jonesville and Tallulah, June 16, 1933; and one on the Singer Preserve 13 miles southwest of Tallulah, June 17, 1933.

Family ACCIPITRIIDAE

WHITE-TAILED KITE

Elanus leucurus majusculus Bangs and Penard

The White-tailed Kite is an accidental autumn visitor to northern and southern Louisiana.

There are only two records for the State, the first of which is a single specimen taken by George E. Beyer on the right bank of the Mississippi River, opposite Kenner, a short distance west of New Orleans on October 11, 1890;²² the other, that of one bird seen on November 2, 1930, near Monroe in Ouachita Parish, northern Louisiana, by George H. Lowery, Jr.²³

SWALLOW-TAILED KITE

Elanoides forficatus forficatus (Linnaeus)

This is one of the most beautiful and striking of all our birds of prey. Its white head, neck, and lower parts, and its glossy purplish black wings, tail, and back, together with its very long forked tail, render it conspicuous and easily recognized. It has marvelous powers of flight, and to observe one sailing high above the swamps or forests of the river valleys, which are its chosen haunts, is a sight long to be remembered. In fact so graceful and remarkable is its flying ability that one can scarcely realize that it is

²²Proc. La. Soc. Naturalists, for 1897-1899 (1900), p. 98.

²³Lowery, Bull. La. Poly. Inst., Vol. XXIX, No. 4, November, 1931, p. 19.

not an enormous swallow. Its ordinary voice is a loud, sharp 'ki' or 'eee', which is audible for a considerable distance.

Apparently, in its food habits, it is not an injurious species, living on snakes, frogs, lizards, toads, and various kinds of insects, such as grasshoppers, crickets, cicadas, cottonworms, dragonflies, bees, and wasps. Most, if not all, of its food is obtained and even eaten while the bird is on the wing.

It builds its nest in the tops of tall trees, in swamps, or along streams, or in other forests. The nest is usually far above the ground, sometimes more than 200 feet, in either deciduous or evergreen trees. It is composed of sticks, moss, and small twigs, and is but a platform with a little depression for the eggs. The eggs are normally two in number, white, spotted and blotched with various shades of brown. Both birds assist in the incubation of the eggs, and are very active in the protection of their nest and young.

The Swallow-tailed Kite is a very rare summer resident, from March 23 to September, in most parts of Louisiana, from Honey Island in Pearl River, Grand Isle, and Cameron Parish, north to near Tallulah, though more frequent in the southern part of the State. It is also an accidental winter visitor in southwestern Louisiana. It breeds from May to July; and there is record of eggs on June 16. Evidently this species was very much more numerous in former times than it is today.

F. W. Langdon found it common between April 1 and April 17, 1881, in pairs on the Cinclare Plantation in West Baton Rouge Parish. It has been reported breeding on Honey Island, in the swamps bordering the Pearl River in the southeastern corner of Louisiana.⁵⁴ E. S. Hopkins reported seeing four individuals at Grand Isle on April 18, 1925, of which one was collected. He also noted there a single bird on April 11, 1926.⁵⁵

⁵⁴Bull. La. Dept. Cons., No. 20, December, 1931, p. 192.

⁵⁵Hopkins, 8th Bien. Rept. La. Dept. Cons., 1926-1928 (1928), p. 279.

Specimens in the museum of Tulane University were taken on the Bedico River in Tangipahoa Parish, June 30, 1889, by George E. Beyer, and at Mandeville on May 27, 1877. Two were seen by George H. Lowery, Jr., on the Singer Preserve on the Tensas River 13 miles southwest of Tallulah, June 16, 1933.

The sole winter record for Louisiana is that of a single individual seen by the writer on the Lower Vermilion River, south of Abbeville, on January 23, 1928.

MISSISSIPPI KITE

Ictinia mississippiensis (Wilson)

This bird, though not so well known or so conspicuous as the Swallow-tailed Kite, is, however, well distributed over the southeastern United States. It is a bird almost uniformly slate-colored, without a strongly forked tail.

It lives about rivers, bayous, and lakes, usually near or in woodlands; and on the plains it frequents the low forests or chaparral, or the fringes of timber along streams. In flight it is strong and active, and sometimes gathers into considerable flocks, particularly during the migration season.

The bird feeds largely while on the wing and apparently lives almost entirely on large insects, such as grasshoppers, crickets, dragonflies, cicadas, and the larger beetles, also frogs, lizards, and snakes. It is thus a very beneficial bird and deserves careful protection everywhere. It apparently never molests other birds.

It builds its nest in trees, usually not at a high elevation, and often only a few feet above the ground, but occasionally in the top of a tall tree, sometimes as much as 135 feet from the ground. The nest is composed of sticks and lined with leaves or weeds. It is often well built, but usually not bulky, and has very little depression at the top for the eggs. The same nest is not infrequently occupied in several successive years, and occasionally an old crow's

nest or similar structure is utilized. The eggs are usually one or two, white, and usually unmarked, although often nest stained. Both birds take part in the incubation, which requires about four and one-half weeks. The young remain in the nest for a considerable time, and are carefully fed by the parents until they are able to shift for themselves.

This kite is an uncommon summer resident, from April 2 to August 27, over practically all of Louisiana, from Avery Island and Chenier au Tigre to Tallulah and West Carroll Parish, wherever woods or fringes of trees along streams furnish suitable habitats. It breeds from April to August, and there are records of eggs from May 8 to July 29. It seems to be of most frequent occurrence in the southeastern part of the State.

Specimens in the museum of Tulane University at New Orleans, chiefly from the Gustave Kohn collection, were taken at Madisonville, May 12 and 17, 1888; May 30, 1886; and August 27, 1886; at New Orleans in July, 1889; on the Bedico River in Tangipahoa Parish, July 22, 1890; and at Como in Franklin Parish, July 25, 1899. Furthermore, a group of three birds with nest and eggs is in the museum of Tulane University, all collected at Como on July 29, 1899. This species was taken by C. C. Sperry at New Orleans on July 28, 1925; by T. D. Burleigh August 12, 1935; and at Westwego by Winston E. Nolan on August 5, 1925. Another specimen from Westwego, collected in June, 1932, is in the museum of the Louisiana Department of Conservation at New Orleans. The writer observed a pair of these birds along the Industrial Canal near New Orleans on June 2, 1933. Robert Butler is authority for the statement that this species breeds in West Feliciana Parish; E. R. Kalmbach reported it from near Tallulah, July 1 and 2, 1924; and J. S. Campbell observed it on Saline Creek in Bienville Parish, July 18, 1932; and along Black Lake Bayou in the same parish on July 20, 1933. A nest with eggs found on May 8, 1867, near the Boeuf River in West Carroll Parish, was recorded by J. P. Norris.

SHARP-SHINNED HAWK*Accipiter striatus velox* (Wilson)

This is one of our smallest hawks, and, in adult plumage, is bluish slate above, white below, with brown or rufous barring. Its rather short rounded wings and a rather long tail will serve to distinguish it from the other hawks.

This hawk is one of the very few that may be regarded as injurious, by reason of its attacks on small birds. It is found mostly in the more or less open country, along the edges of woodlands, in pastures, and other similar places, but also sometimes in dense forests. It is one of the hawks that regularly migrate south after the breeding season, and is often seen in great numbers, passing along the migration routes. It is capable of very swift flight, and can overtake almost any bird on the wing. It has sharp, rather piercing, notes uttered particularly when the nest is approached, some of which have been variously represented as 'kek', 'kik', 'cha', or 'yip', several times repeated.

This bird lives almost exclusively on small birds of various kinds, such as blackbirds, grackles, larks, sandpipers, woodpeckers, and others, but at times it also eats mice, shrews, lizards, frogs, and large insects, like grasshoppers, crickets, and moths.

The nest is usually built in a tree, either deciduous or evergreen, and sometimes at a considerable distance from the ground. It is composed of small sticks and bark, and lined with similar finer materials. The eggs are white or bluish white, variously blotched with different shades of brown and are usually handsome. Both parents aid in the incubation of the eggs, which requires about three weeks, possibly a little more. The young are fed for several weeks in the nest or until they are able to take care of themselves. The sitting bird sometimes leaves the nest at the approach of anyone, but at times attacks or darts at the intruder with considerable viciousness. At other times, however, the bird will remain on the nest until almost touched.

The Sharp-shinned Hawk is a fairly common winter resident, from October 3 to March 29, in Louisiana, reported north to Oak Grove in West Carroll Parish, Tallulah, and Bienville; south to southwestern Cameron Parish, Grand Chenier, Pilot Town, and Madisonville. It is also a very rare and very local summer resident in the State. It breeds from March to May; and there are records of eggs from March 7 to May 4.

It was reported breeding near Bains in West Feliciana Parish in May, 1916, by Edward Butler.

There is a specimen in the museum of Tulane University, taken on the Bedico River on August 6, 1890; and George E. Beyer noted it at Madisonville in Saint Tammany Parish on August 5, 1890. There are specimens of this species in the museum of Tulane University collected at Madisonville in December, 1887; at New Orleans, March 29, 1875, and December 27, 1887; at Bayou La Barre, November 27, 1889; and at Avery Island, January 13, 1894. The writer has seen a specimen obtained by Winston E. Nolan at Abbeville about December 24, 1932; and one by E. G. Pike at Pilot Town, December 5, 1930. The writer observed this species along the Harvey Canal, south of New Orleans on January 26, 1932; near Grand Chenier on December 31, 1932; and near the Orange-Cameron Land Company's club house in southwestern Cameron Parish on January 26, 1928. Four individuals were noted by John S. Campbell at Oak Grove in West Carroll Parish on December 23, 1934; and one at Tallulah by the same observer on December 25, 1933. George H. Lowery, Jr., considers it a fairly common resident in the Baton Rouge region. J. S. Campbell found nests near Bienville on April 7 and May 4, 1932; and one at Friendship as early as March 7, 1933.

COOPER HAWK

Accipiter cooperii (Bonaparte)

The Cooper Hawk is virtually a large edition of the Sharp-shinned Hawk, since in the field it is practically indistinguishable in color from that bird.

It is to be found in almost all kinds of country, although apparently the partly wooded and more open areas are preferred. It is rarely seen in any considerable numbers, as it is not gregarious, and generally speaking is much less numerous than the Sharp-shinned Hawk, with which it often associates on its migration journeys.

Like the Sharp-shinned Hawk it is very destructive to other birds, and can dispose of birds of considerable size, such as grouse, partridges, and doves, although most of its victims are smaller. It at times also is detrimental in poultry yards, particularly to young chickens, and also domestic pigeons. Its wariness and speed of flight render it difficult to kill. Sometimes it eats also mice, rats, squirrels, rabbits, and other mammals, snakes, frogs, lizards, and the larger insects, such as grasshoppers, beetles, crickets, and butterflies, on some occasions even feeding on small fishes.

The nest of this hawk is usually in a tree, deciduous or evergreen, at a considerable distance from the ground. Sometimes an old nest is utilized or the nest of a crow or squirrel is appropriated. The nest ordinarily is constructed of sticks, with a lining of pieces of bark, chips, or pine needles. It is a rather bulky structure and the cavity for the eggs is usually shallow. The eggs are usually four to five, sometimes less, in color bluish or greenish white, occasionally lightly spotted with brown or buff. Incubation, in which both male and female take part, requires about three and one-half weeks; and the young remain in the nest for more than a month.

The Cooper Hawk is a rare permanent resident throughout the greater part of Louisiana, but is most frequently observed in the southern portion of the State, and in winter or during the migrations. It has been reported from the Mississippi River Delta and Cameron Parish north to Tallulah, Oak Grove in West Carroll Parish, Bienville, and Gayle in Caddo Parish. It was reported by Edward Butler as breeding at Saint Francisville in 1915, and recently by Robert Butler near Bains in West Feliciana Parish. It was

found nesting at Bienville by J. S. Campbell on April 10, 1932, and March 28, 1933, and there were eggs in the nests on these dates.

There is a specimen in the museum of Tulane University, collected at Madisonville on August 22, 1890; and the species was seen at the Cameron Farm 14 miles south of Vinton in Cameron Parish, May 8, 1919, by E. R. Kalmbach. J. S. Campbell noted this species at Oak Grove in West Carroll Parish, December 23, 1934; and at Tallulah, December 25, 1933. Two autumn specimens in the museum of Tulane University were collected at Mandeville on October 15, 1876. The writer observed it at Chateau Canard, Joseph Leiter's hunting lodge on Main Pass in the Mississippi River Delta, January 23, 1932; at the Rainey Wild Life Sanctuary on January 23, 1928; on Terrebonne Bayou near Lake Barre on December 23, 1932; and on the Rockefeller Wild Life Refuge near Grand Chenier on December 31, 1932. Several individuals were seen in Cameron Parish about January 1, 1938, by George H. Lowery, Jr.

EASTERN RED-TAILED HAWK

Buteo jamaicensis borealis (Gmelin)⁵⁰

This is the largest of the common hawks in Louisiana, and at the same time one of the most beneficial. It is a bird about two feet long or a little less, has broad wings, is dark brown above, with a decidedly reddish tail, and white below with dark streaks on the breast.

It is a bird of the forests, particularly those of the uplands, and although it hunts in the open country its real home is in the woods. It is not often seen in any considerable numbers, but usually is noted soaring or flying high in the air, singly or in pairs. Its ample wings and powerful muscles give it a buoyancy of flight that is remarkable. The individuals of this species that live in the northernmost parts of its range are largely migratory and spend their winters farther south, although some remain

⁵⁰*Buteo borealis borealis* of the 1931 A. O. U. Check-List.

even in the north. Its note is a shrill scream or squeal. This bird sometimes performs very interesting maneuvers in the air, soaring in circles until almost out of sight, and then, with closed wings, diving almost to the earth, sometimes rising again at a sharp angle and again decending. Similar behavior on the wing is probably a part of the courtship. It is rather shy and difficult to approach, although it spends a good deal of its time perched on some high point, where it can have an unobstructed view for a considerable distance; and its sight is exceedingly keen.

The Red-tailed Hawk lives on various kinds of animal food, chiefly injurious rodents, such as mice and rats, also squirrels, skunks, raccoons, gophers, spermophiles, prairie dogs, moles, shrews, muskrats, and weasels. The remaining small portion of its food is made up of such animals as crawfishes, salamanders, turtles, frogs, lizards, snakes, various kinds of insects, centipedes, earthworms, a few wild birds, and rarely domestic poultry. This food it hunts by flight over usually more or less open country, and when its prey is sighted it descends rapidly almost to the earth, although rarely ever alighting thereon, seizes its prey, and is off on the wing.

It breeds usually in the forest, placing its nest in deciduous or evergreen trees, sometimes as high as 90 feet from the ground. This is a bulky structure, composed of sticks, bark, moss, and ornamented with a few bunches of evergreen leaves. It is lined with finer twigs and bark. The nest is occupied ordinarily year after year, and is sometimes repaired in the autumn. The nest of the Crow, or other large bird, is in some instances taken as a foundation. The eggs are usually two or three, and are white or bluish white, sometimes unmarked, but ordinarily with a few spots of brown and drab. The male as well as the female incubates the eggs, and he also is in attendance on his mate and assists in taking care of the young, which remain more than a month in the nest.

The Eastern Red-tailed Hawk is a permanent resident, fairly common, over practically all of Louisiana, having

been recorded from Paradis, Grand Isle in Jefferson Parish, the Rainey Wild Life Sanctuary, and Black Bayou in Cameron Parish; north to Lake Providence, Oak Grove in West Carroll Parish, Tallulah, Monroe, Ruston, Bienville, and Lake Caddo. It is a very rare, perhaps only casual, breeding bird, from March to May, and therefore, much more numerous during the winter and the migrations, from October to March.

This species was noted along Black Bayou in Cameron Parish on May 1, 1919, by E. R. Kalmbach; ten miles south of Tallulah on June 16, 1924, by the same observer; near Bayou Sara on June 18, 1921, by S. C. Arthur; and at Caddo Lake on June 18, 1933, by the writer; and these may probably be regarded as breeding records.

Specimens of this subspecies from the following localities have been examined in the museum of Tulane University: Lake Catherine, February 21, 1884; New Orleans, November 21, 1886; December 18, 1891; and March 6, 1895; Raceland, December 22, 1886, and January 3, 1889; Rayne, January 8, 1893; Bayou Des Allemands, December 18, 1887, and February 22, 1892; Barataria Bayou, December, 1876; Sabine Station in southwestern Calcasieu Parish, January 4, 1889. Another specimen now in the collection of the United States Biological Survey was taken by George H. Lowery, Jr., at Monroe, December 20, 1932; also one obtained by Arnold Boon at Bienville, March 10, 1935. Two specimens collected by George H. Lowery, Jr., at Ruston, December 23, 1931, and January 24, 1932, respectively, have also been recently identified. J. S. Campbell obtained a specimen at Bienville on March 24, 1932, and another at Lucky, April 22, 1933.

In addition the writer has seen the birds below listed, all of which were collected by G. L. Tiebout, Jr.; Tarbert, December 9, 1937; Baton Rouge, November 2, 3, 6, 15, 20, and 25, 1937; six miles south of Baton Rouge, November 22, 1937; McCall, Ascension Parish, November 26, 1937; New Roads, November 4, 1937; Morganza, Pointe Coupee Parish, November 26, and December 6 and 25, 1937; Li-

vonian, November 26 and December 6, 1937; Plaquemine, Iberville Parish, December 5, 1937; Bayou Goula, Iberville Parish, December 2, 1937; and White Castle, Iberville Parish, December 5, 1937.

The following field records by the writer refer also to this form, each of these of a single individual: Cognovich Pass, Mississippi River Delta, December 18, 1932; Myrtle Grove, January 24, 1932; Avery Island, December 28, 1932; Erath, December 28, 1932; Kaplan, December 29, 1932; Terrebonne Bayou, near Houma, December 24, 1932; Bayou Boeuf, January 27, 1932; Little Wax Bayou, January 28, 1932; Intercoastal Canal between Intercoastal City and Vermilion Bay, January 30, 1932; and the lower Vermilion River, January 23, 1928.

KRIDER HAWK

Buteo jamaicensis kriderii Hoopes⁵⁷

The Krider Hawk, a form of the Red-tailed Hawk, is a rare winter visitor, from November 3 to March 21, in southern Louisiana; but it may be more frequent than is now known.

The only definite records are specimens examined by the writer from Addis in West Baton Rouge Parish, December 19, 1937; McCall, Ascension Parish, November 25, 1937; Baton Rouge, January 24, 1938, November 3 and 15, 1937, by G. L. Tiebout, Jr.; and January 26 and March 21, 1937, by George H. Lowery, Jr.; single individuals in the museum of Tulane University from Raceland, December 10, 1890; Bayou Le Barre, December, 1888, an immature; and Vinton, November 30, 1893; also a bird banded at Muscow, Saskatchewan, later killed at Iota, La., on February 1, 1934.

FUERTES RED-TAILED HAWK

Buteo jamaicensis fuertesi Sutton and Van Tyne.

This recently discovered race of the Red-tailed Hawk is a casual winter resident, reported from December 2 to February 23, in southern Louisiana.

⁵⁷*Buteo borealis krideri* of the 1931 A. O. U. Check-List.

The only records to date are a male taken by George H. Lowery, Jr., at Johnson Bayou, in Cameron Parish, on January 2, 1938; a female taken by G. L. Tiebout, Jr., at Grosse Tete, Iberville Parish, on December 2, 1937; and another individual by the same collector at La Barre on February 23, 1938; all these identified by the writer.

This hawk was described by Sutton and Van Tyne from specimens obtained in central western Texas, and the original notice was published in Occasional Papers of the Museum of Zoology of the University of Michigan, No. 321, September 23, 1935, page 1. The type locality is Calamity Creek Bridge, 22 miles south of Alpine, Brewster County, Texas, but the subspecies ranges at some season from southern Louisiana to southern California.

WESTERN RED-TAILED HAWK

Buteo jamaicensis calurus Cassin

This red-tailed hawk is an uncommon winter resident, reported from November 25 to February 22, in southern Louisiana.

Records for the State are specimens collected, which have been examined by the writer, as follows: a male in the light phase, taken at White Castle, Iberville Parish, on November 26, 1937; a female in the dark phase, at Westover, West Baton Rouge Parish, November 25, 1937; and a male in dark phase, at Bayou Goula, Iberville Parish, December 19, 1937. All these birds were obtained by G. L. Tiebout, Jr., and are in the museum of the Louisiana State University, at Baton Rouge. There are also the following sight records of adult birds carefully identified by G. L. Tiebout, Jr.: two additional birds seen at Westover, November 25, 1937, and another there on December 25, 1937; two at La Barre, December 23, 1937, and on February 22, 1938.

The two specimens from Ruston, Louisiana, recorded as the Western Red-tailed Hawk in *The Auk*, Vol. XLIX, No. 4, October 4, 1932, p. 463, prove now to be examples of the Eastern Red-tailed Hawk, *Buteo jamaicensis borealis*.

HARLAN HAWK

Buteo harlani (Audubon)⁵⁸

The Harlan Hawk is a rare winter visitor, from November 26 to March 16, in central and southern Louisiana, and is not yet recorded from the northern part of the State. Audubon's original description of this bird was taken from a pair collected near Saint Francisville.⁵⁹

Specimens of this species have been examined in the collection of the museum of Tulane University, from St. James, January 1, 1894, and New Orleans, January 16, 1897. Two specimens in the collection of the State Department of Agriculture in the State Capitol at Baton Rouge were collected respectively by Glenn Hopkins at Grand Isle on March 12, 1933; and by Ambrose Daigre at Alexandria, December 3, 1933. H. H. Kopman reports that he collected a specimen of this hawk at Oneida, near Convent, in St. James Parish, during the last week of December, 1893. George H. Lowery, Jr., obtained an immature female at Baton Rouge on January 12, 1936. Andrew Allison also reports it on March 12 and March 16, 1903, between West Baton Rouge Parish and New Orleans. The writer has identified additional specimens taken by G. L. Tiebout, Jr., one at Hohen Solm, November 26, 1937, and another at Morganza in Pointe Coupee Parish, December 28, 1937.

NORTHERN RED-SHOULDERED HAWK

Buteo lineatus lineatus (Gmelin)

The Red-shouldered Hawk is similar in appearance to the Red-tailed Hawk, but is somewhat smaller and has no reddish color on the tail, which is barred with light and dark brown, and the under parts are largely rufous.

This hawk is more of an inhabitant of the bottomland forests and the swamps than it is of the upland, usually in such forests taking the place of the Red-tailed Hawk. It is furthermore of rather more southern distribution than

⁵⁸*Buteo borealis harlani* of the 1931 A. O. U. Check-List.

⁵⁹Audubon, Birds Amer., folio ed., Vol. I, 1830, pl. LXXXVI; Ornith. Biog., Vol. I, 1831, p. 441.

the Red-tailed Hawk. It has a rather strong flight, although it does not soar so much as the Red-tailed Hawk and remains more in the forests under the protection of the trees. It is a more noisy bird than the Red-tailed Hawk and its note, which is very much like 'heigh-ho', or 'keeah', is frequently heard from the bird on the wing.

In food habits this bird is one of the most omnivorous of all the hawks, living on almost all kinds of animal food, although rarely ever wild birds or poultry. A large part of its food is made up of mice, rats, frogs, snakes, and various large insects.

The nest of this bird is built in a tree, often at a considerable height, and ordinarily in a crotch of the trunk. It is a rather bulky affair, though well built, of sticks, moss, bark, and lined with inner bark, Spanish moss, and similar materials, together with sometimes a snake skin, and is ornamented by green leaves. The eggs are usually two or three, and either white or bluish white, marked with various shades of brown and drab. The parents usually leave the nest when an intruder approaches, but sometimes they will attack anyone who is climbing to the nest. Altogether it is one of our most beneficial hawks and by all means deserves full protection.

The typical form of the Red-shouldered Hawk is a winter resident, from November, casually August, to January, probably also to February or March, in southern Louisiana. Since it is not easily or with certainty identifiable in life from the more common Florida Red-shouldered Hawk, it is probably of more frequent occurrence than the records would indicate.

The writer has been able to examine only four specimens from the State, all of them in the collection of the museum of Tulane University. They are as follows: Bedico River, Tangipahoa Parish, August 25, 1890; Raceland, November 25, 1891; Baton Rouge, November 10, 1892; Sabine Station in southwestern Calcasieu Parish, January 22, 1889.

FLORIDA RED-SHOULDERED HAWK*Buteo lineatus alleni* Ridgway

The Florida Red-shouldered Hawk, a smaller and paler edition of the typical bird, is a fairly common permanent resident in all of Louisiana, wherever suitable timber occurs, from Lake Catherine, Bayou Loutre in St. Bernard Parish, Paradis, New Iberia, the Rainey Wild Life Sanctuary, and Cameron Parish, to Lake Providence, Tallulah, Oak Grove in West Carroll Parish, Mer Rouge, Monroe, Bienville, and Bossier Parish. It breeds from January to June, practically throughout its range in the State; and there is record of eggs on May 22.

The following specimens of this subspecies in the museum of Tulane University have been examined: Bedico River, Tangipahoa Parish, June 17, 1889; Arcola, Tangipahoa Parish, June 29, 1890; Madisonville, November 18, 1888; Ponchatoula, December 12, 1891; New Orleans, January 29, 1875; Bayou Des Allemands, January 2, 1887; Avery Island, January 18, 1894; Grand Isle, January 25, 1892; Vinton, December 30, 1897; and Calcasieu Pass, January 20, 1893; also one in the Chicago Academy of Sciences, from Chenier au Tigre, collected by A. M. Bailey on March 10, 1931. The writer has observed this hawk at Lottie, June 15, 1933, where it seemed to be the most numerous of its family; at Cross Lake near Shreveport on June 18, 1933; on the Singer Preserve along the Tensas River, 13 miles southwest of Tallulah, on June 16 and 17, 1933. According to J. S. Campbell it breeds at Bienville chiefly in March and April.

BROAD-WINGED HAWK*Buteo platypterus platypterus* (Vieillot)

This hawk is much less well known than either the Red-tailed Hawk or the Red-shouldered Hawk, and much resembles the latter, although it is rather smaller and lacks the rufous color on the under parts. Furthermore, its tail is banded with very dark brown or black, and white, by which characteristics it can be usually identified. Its name Broad-winged Hawk has arisen from its relatively ample wings

and its excellent powers of flight. It is one of the species that are highly migratory, and it travels as far as South America in the winter. On its migration journeys it moves often in considerable companies with other species, such as the Red-tailed Hawk, Red-shouldered Hawk, Sharp-shinned Hawk, Cooper Hawk, and other hawks, on such occasions flying often high in the air.

The Broad-winged Hawk is a bird of the forest and wilderness, and lives in the swamps or on the uplands, and is not so frequently seen in cultivated areas as the smaller hawks.

The food of this hawk is wholly animal, and it hunts by perching on a tree or similar point of vantage, waiting until its victim is spied, then dashing out, seizing it, and bearing it away. Its prey consists of a great variety of mammals, such as mice, rats, shrews, weasels, and squirrels; of some birds such as small song birds and woodpeckers, lizards, snakes, frogs, many kinds of large insects, thousand-legs, spiders, crawfishes, earthworms, and various other items.

This bird places its nest well up in trees, either deciduous or evergreen, sometimes at a considerable height. The nest is either constructed by the birds themselves, or the nest of another hawk, a crow, or a squirrel is remodeled for their use. Ordinarily the nest is a rather substantial structure of twigs, sticks, bark, and lichens, lined with finer materials of the same kind. It is regularly ornamented, as are the nests of many species of hawks, with green twigs of pine or some deciduous tree. The nest commonly is not used two years in succession, although this is sometimes done. The eggs are ordinarily two, dull white, blotched and spotted with various shades of brown and drab. The duties of incubation are shared by the male and female, and both parents aid in feeding the young. The young remain sometimes for six weeks in the nest, although sometimes less. If one of the parents is killed during the breeding season the other will sometimes care for the young alone.

The Broad-winged Hawk is an uncommon summer resident, from March 30 to November 8, over most of the upland region of Louisiana, but is then practically absent from the coastal marshes. It is also a rare winter resident in the Gulf Coast region of southern Louisiana, at least from near Houma to Grand Chenier, and also north to Oak Grove in West Carroll Parish, and to Monroe. In summer it has been reported from the southeastern part of the State, north to Monroe, and probably occurs also in the other portions of the northern part of Louisiana. It is, everywhere most numerous during migration.

A specimen in the museum of Tulane University was taken at Mandeville on November 8, 1874. Another, in the Chicago Academy of Sciences, was collected by A. M. Bailey at Chenier au Tigre, January 5, 1934. J. S. Campbell saw two at Oak Grove on December 23, 1934; and George H. Lowery, Jr., one at Monroe, December 27, 1934. The writer has observed it during the winter at the following localities: Bayou Black in Terrebonne Parish, near Houma, four seen, January 27, 1932; Bayou Boeuf, east of Morgan City, one seen on January 27, 1932; lower Vermilion River, one observed on January 30, 1932; and Grand Chenier, one seen on December 30, 1932. George H. Lowery, Jr., says that it is a fairly common winter hawk at Baton Rouge, arriving in September; and that he has witnessed several diurnal migration flights in that region. J. S. Campbell seems to think, however, that it is only a transient at Bienville.

AMERICAN ROUGH-LEGGED HAWK

Buteo lagopus s. johannis (Gmelin)

The American Rough-legged Hawk is a casual, at times perhaps not uncommon, winter visitor, from December 31 to March 12, in southern Louisiana.

The records for the State are: One specimen, a female, collected by Glenn Hopkins at Grand Isle, March 12, 1933, and identified by the writer; a single bird seen by T. Gilbert Pearson and Richard Gordon on the Rainey Wild Life

Sanctuary south of Abbeville on January 4, 1928;⁶⁰ three seen, of which one was shot but not recovered, at Holly Beach in Cameron Parish by George H. Lowery, Jr., on December 31, 1938; two seen there on the following day by the same observer; one observed by George L. Tiebout, Jr., at Grand Isle, January 27, 1937, and another by him at Westover on February 11, 1938.

FERRUGINOUS ROUGH-LEGGED HAWK

Buteo regalis (Gray)

The Ferruginous Rough-legged Hawk is a casual or accidental winter visitor in southern Louisiana.

The sole record is a single bird observed by George L. Tiebout, Jr., at McCall on January 14, 1938. This bird was seen at close range and all its characteristic markings noted, so there can be no doubt of its correct identification.

SENNETT WHITE-TAILED HAWK

Tachytriorchis albicaudatus hyospodius (Gurney)⁶¹

This beautiful hawk is of only accidental occurrence in southwestern Louisiana.

The single record is an immature bird in the blackish plumage, which was taken apparently by Gustave Kohn, or one of his collectors, at Sabine Station in southwestern Calcasieu Parish on November 18, 1888. It is now in the museum of Tulane University, where it had, until recently, been identified as *Buteo harlani*; and where it has been examined by the writer. This species is now for the first time recorded from Louisiana.

HARRIS HAWK

Parabuteo unicinctus harrisi (Audubon)

The Harris Hawk is of casual occurrence in southern Louisiana.

⁶⁰Circ. Nat. Asso. Aud. Soc., No. 11, February 15, 1928, p. 7.

⁶¹*Buteo albicaudatus hyospodius* of the 1931 edition of the A. O. U. Check-List.

The type of this hawk was originally taken near Bayou Sara, between Bayou Sara and Natchez, and given to John James Audubon, by whom it was described.⁶² The species has since been reported as taken in October, 1889, at Calumet Plantation, near Patterson, in Saint Mary Parish.⁶³

GOLDEN EAGLE

Aquila chrysaëtos canadensis (Linnaeus)

The Golden Eagle is one of the most powerful of our North American birds, and has a wide range, not only in North America, but in the Old World. It is called 'golden' from the dull yellowish brown feathers of the hind neck.

In its summer home it is a bird of the north and of the high mountains, or of the cliffs and buttes of the desert. Its large size, which is exceeded by few other birds, together with its powers of flight and dark brown plumage, set it off from all the other birds, except perhaps the immature Bald Eagle. It is about three feet in length and something like seven feet in extent of wings. In adult plumage it is distinguishable from the Bald Eagle by its dark brown instead of white head and tail; and in any plumage by its legs which are feathered down to the toes. It is almost always seen singly soaring or flying about the country, either in the open areas or in the forests.

This bird lives on various kinds of mammals, some of them of considerable size, which, owing to its strength, it is able to capture. These include deer, antelope, lambs, goats, pigs, foxes, ducks, dogs, coyotes, rabbits, and various other mammals, such as woodchucks, weasels, pocket gophers, rats, mice, and moles. Sometimes it feeds to a considerable extent on ducks and geese, on grouse and other game birds, and even occasionally on a hawk or an owl; also on various other kinds of food, such as snakes, turtles, and sometimes even carrion. Most of the mammals are obtained by pursuit in the open on the ground. The birds are often taken on the wing.

⁶²Ornith. Biog., Vol. V, 1839, p. 34.

⁶³Coombs, The Auk, Vol. IX, No. 2, April, 1892, p. 205.

This eagle breeds commonly on cliffs or ledges, or in large trees. Its nest is a bulky structure, strongly made of sticks, weed-stems, roots, and other similar materials, and lined with bark, weeds, and grass. The eggs are usually two, white, or buff, and marked with spots of different shades of brown and drab. Incubation occupies about five weeks, and is performed mostly by the female, although the male is in attendance during this period, and also when the young have appeared. The young remain in the nest for two months or more, and are fed regularly during this period.

This eagle is a casual winter visitor, noted mostly in autumn, in southern Louisiana, from Bogalusa to Beauregard Parish; and also in the northern part of the State. The definite authenticated records of this species for Louisiana seem to be as follows:

A specimen taken at Jackson, prior to 1904, is recorded by Beyer, Allison, and Kopman, in their list of the birds of Louisiana.⁶⁴ Another specimen, taken at Bogalusa in Washington Parish, was killed there several years previous to 1927, at which time it was seen by E. S. Hopkins. An immature individual now in the museum of the Louisiana Department of Conservation at New Orleans was killed on the lower part of Bayou Maringouin, near Maringouin in Iberville Parish, November 24, 1924, by Edward Lee Green of Lottie. One was shot at Truxno Community, ten miles north of Farmerville, Union Parish, in early November, 1934, and was reported by F. W. Murphy. Two specimens from De Ridder in Beauregard Parish were taken several years previous to 1928, when these were seen by E. S. Hopkins.⁶⁵ One was caught in a trap by Jeff Kemp at Pioneer, West Carroll Parish, on January 12, 1934, and reported by J. S. Campbell.⁶⁶ One was seen by F. R. Dickinson and State Game Warden J. J. Kuhn about 15 miles southwest of Tallulah on October 8, 1934.⁶⁷ Another, now in the collection of birds

⁶⁴The Auk, Vol. XXV, No. 4, October, 1908, p. 442.

⁶⁵Holt, The Auk, Vol. I, No. 3, July, 1933, p. 355.

⁶⁶The Auk, Vol. LI, No. 3, June 28, 1934, p. 371.

⁶⁷Program Activities Chicago Academy Sciences, Vol. VI, No. 1, January 2, 1935, p. 11.

prepared by Mrs. C. S. Vaughn at Natchez, Miss., was obtained near Bastrop, northern Louisiana, in the late winter or early spring of 1904, and was identified by George H. Lowery, Jr. There are two or three other reports of the occurrence of the Golden Eagle in Louisiana, but no definite data concerning these have been obtainable. The birds credited to A. M. Bailey as obtained in Louisiana were not collected by him in the State, so he has informed the writer.

SOUTHERN BALD EAGLE

Haliaeetus leucocephalus leucocephalus (Linnaeus)

Of about the same size as the Golden Eagle, this bird is easily distinguished when adult by its white head and tail, and is of rather more general distribution in the United States than is the Golden Eagle, although there are considerable areas where neither is common. As the national emblem of our country it is well known to almost everyone, and it is, furthermore, a strictly American bird, not being found in any part of the world except North America. The Southern Bald Eagle, which is the common bird in Louisiana, differs from the Northern Bald Eagle only in smaller size.

This bird lives in almost all parts of the country, preferably, however, not far from streams, lakes, and other bodies of water, since its food is obtained largely from the water. Its flight is powerful and majestic, and it soars at times for long periods without motion of the wings. It is much swifter of flight than one would imagine for so large a bird, and it can easily overtake many of the ducks and other birds that are themselves fast fliers.

Its chief and preferred food, whenever obtainable, is fishes of all kinds, but it takes any kind that it is able to obtain. Frequently it robs the American Osprey of his finny prey, attacking the bird in the air, and finally causing him to drop the fish, which it often catches before it reaches the water. Sometimes, however, the eagle fishes for itself. From its perch on the summit of a dead tree it launches downward, and, falling like a stone, it seizes its

prey. At other times it hunts on the wing, pausing over the water by rapid wing-beats and finally diving, even from a great height, sometimes so swiftly that it is practically submerged when it strikes. Then again it varies this by flying leisurely along near the surface of the water. Audubon mentions that he saw it on several occasions, wading in the shallow and striking at the small fish with its bill, and other observers have also noted a similar habit. It has been seen scrambling over the ice of a pond trying to reach a fish below, and it has even been reported to have caught flying fish in the air, which is a remarkable performance. Its other food consists of various kinds of waterfowl, particularly those that have been injured or are ill. In catching wounded birds two eagles sometimes work together. Other items of food are various kinds of mammals, such as rabbits, rats, and mice, also turtles and various kinds of birds, and occasionally it has been known to carry off a young lamb. It also preys to some extent on fawns, although it does not usually attack a full grown deer. Stories are frequently heard of the carrying off of small children, but these are practically all imagination. On occasion the Bald Eagle does not disdain carrion, and this is particularly the case in the west, where frequently cattle and similar domestic animals fall victims to drought or other catastrophe. Sometimes it drives away the gathered vultures or takes from them their repast, and keeps them at a respectful distance until its own hunger is satisfied. At times it even pursues vultures and compels them to disgorge their food.

The Bald Eagle nests usually on a tall tree, sometimes 150 feet from the ground, but often the nest is on the ground or on a rock. In any case it is an immense structure, sometimes eight to ten feet high, composed of sticks, cornstalks, grasses, sedges, mosses, and rubbish, and lined with grass, moss, and feathers, although the top has relatively little depression. The eggs are usually two in number, dull white, without markings, though sometimes nest stained. It requires about five weeks for the hatching of the eggs.

and both parents take part in the duty of incubation, as well as in the feeding of the young after they appear. They remain more than two months in the nest and do not leave until they are able to fly.

The Southern Bald Eagle is a permanent resident over most of Louisiana, fairly common locally in southern Louisiana, not common in other regions of the State. It is probably less numerous now than formerly. It has been noted from the Mississippi River Delta, Grand Isle, New Iberia, Chenier au Tigre, and Black Bayou in Cameron Parish, north to Bear Lake eight miles northwest of Tallulah, Ouachita Parish and Saline Swamp near Bienville. It breeds from December to June, and there are records of eggs from December to February 15.

All the specimens of this species from Louisiana that have been examined in the present connection prove to belong to the southern race of the species, but the Northern Bald Eagle probably occurs, at least as a casual winter visitor. E. S. Hopkins collected the Southern Bald Eagle near Covington and at Pointe a la Hache. There is a specimen in the museum of the Louisiana Department of Conservation at New Orleans, taken at Manchac in November, 1932; four others in the museum of Tulane University, from Louisiana without further data, and another, taken at Lafayette, April 22, 1895. Robert Butler reported it in 1933 as breeding in West Feliciana Parish; and George H. Lowery, Jr., records a nest at Port Hudson in March, 1935. J. S. Campbell mentions a bird seen in Saline Swamp near Bienville on July 18, 1933. The writer observed this eagle along the Mississippi River between Pilot Town and Venice on December 20, 1932; on Bayou Black in Terrebonne Parish near Houma on January 27, 1932; on Little Barataria Bayou, January 26, 1932; Avoca Island on January 28, 1932; Rainey Wild Life Sanctuary, January 22, 1928; and on the Lower Vermilion River, January 30, 1932. E. S. Hopkins found it along Black Bayou in Cameron Parish on January 27, 1928. George H. Lowery, Jr., reported it on October 10, 1936, near Port Hudson about 7 miles east of Baton Rouge.

MARSH HAWK

Circus cyaneus hudsonius (Linnaeus)⁶⁶

The Marsh Hawk is one of the long, rather slender-bodied hawks, of light or dark gray color, and has a white rump, which is conspicuous even in flight.

It is seen commonly soaring or beating about over the marshes, damp meadows, prairies, or grassy plains, seeking its food as it flies. It is a bird mostly of the open country, and does not so frequently stay in the forests. It is a migratory species and while it does not breed in the far south it is very numerous there during the winter.

This hawk in many places must be regarded as very beneficial, because it destroys a great many rats, mice, rabbits, pocket gophers, spermophiles, squirrels, and other injurious mammals. However, in some places it eats also a great many birds, particularly song birds, some game birds, and poultry, and even on some occasions it preys on waterfowl. In addition it subsists on a great many frogs, some lizards and snakes, large numbers of grasshoppers, crickets, and other insects. An interesting domestic incident is the manner in which the male sometimes feeds its mate. He flies with a mouse high in the air until not more than 20 feet above his mate, when he drops the mouse and his mate turns partly over and catches the mouse in her claws.

This bird breeds in secluded spots in bogs, swamps, thickets, or even on brushy hillsides, open grassy meadows, or margins of sloughs. The nest is built on the ground, is usually well concealed, a rather slight structure of sticks, straws, grasses, and weed-stalks, lined with finer materials of the same kind, and sometimes with the down of thistles. The eggs are commonly four or five, white, and ordinarily unmarked. Apparently the incubation, which requires approximately four weeks, is begun when the first egg is laid, since the young do not all hatch at the same time. Both birds assist in the incubation, as well as in the care of the young.

⁶⁶*Circus hudsonius* of the 1931 edition of the A. O. U. Check-List.

The Marsh Hawk is a common winter resident, from September 12 to April 26, casually to May 24, throughout Louisiana, having been reported from Lake Catherine, Octave Pass in the Mississippi River Delta, Grand Isle, New Iberia, the Rainey Wild Life Sanctuary, and Cameron Parish, north to Lake Providence, Oak Grove in West Carroll Parish, and Monroe. It is most numerous in the coastal marshes, but is of general distribution in Louisiana.

The following specimens are in the museum of Tulane University: Grand Lagoon near Rigolets, December 14, 1874; Lake Catherine, November 13, 1887; New Orleans, October 15, 1892; Sabine Station, Calcasieu Parish, February 27, 1889; Freshwater Bayou, Calcasieu Parish, January 13, 1894; Vinton, January 3, 1893; and Calcasieu Pass, November 4, 1891. One in the Chicago Academy of Sciences was taken by Joseph Leiter, January 5, 1930, at Chateau Canard on Main Pass, Mississippi River Delta; two others by E. R. Pike, at Pilot Town, December 5, 1930, and November —, 1930. This hawk was found by the writer particularly numerous on the Delta Duck Club grounds along Octave Pass in the Mississippi River Delta on January 22, 1932; along Derrnis Pass, in the Mississippi River Delta on December 17, 1932; Lake Barre on December 23, 1932; and Drum Lake (Lake Tambour) on December 23, 1932. It was noted also at Grand Chenier on December 30, 1932; and at the club house of the Orange-Cameron Land Company in southwestern Cameron Parish on January 27, 1928. It was seen by Ambrose Daigre at Grand Isle April 11, 1936; and by George H. Lowery, Jr., at Baton Rouge, March 15, and September 17, 1936. J. S. Campbell considers it a common winter visitor from about October 1 to March 2, at Bienville.

AMERICAN OSPREY

Pandion haliaetus carolinensis (Gmelin)

Almost as large as an eagle, and with a white head, the American Osprey superficially not a little resembles the Bald Eagle.

It is found over much of North America, living particularly along the coasts but also on the larger bodies of water or streams in the interior. It is a migratory bird and leaves the north in the fall to spend the winter in the Gulf States, Central America, and South America. In flight it is powerful and capable of long journeys, though apparently not so swift as are the eagles. It rarely assembles into flocks, but it is well distributed over many portions of the regions in which it occurs. Its common note is a rather musical call, loud, but sometimes ending in a shrill whistle, on occasion prolonged and ending in a rather harsh squeal. Notwithstanding its frequent dips in the water after its prey, it sometimes enjoys taking a bath. This performance is carried on in something like six inches of water, and it is after the manner of other birds, by submerging itself and then rapidly moving its wings. Occasionally it descends from a flight into the water, and rising up to an almost vertical position vigorously flaps its wings two or three times to churn up the water, after which it rises and repeats the performance. Other methods of bathing have been reported by observers.

The food of the 'fish hawk', as it is often called, is almost exclusively fishes, which it catches for itself, and its bill-of-fare includes a long list of different kinds. It is so entirely a fish-eating bird that only on rare occasions does it take any other food, such as frogs, snakes, and insects. Its fishing operations are carried on by soaring, hovering, or flying over the water at a considerable height, from which, when the prospective prey has been sighted, it dives into the water, catches the fish, rises and flies away, either to some perch where it eats the fish itself, or to its nest where it feeds the fish to its young.

The nest of the American Osprey is ordinarily built on a tree, sometimes at a considerable height from the ground, but at times on the ground, on rocks, clay pinnacles, telephone or telegraph poles, or even on the chimney of a house. Sometimes the bird has been attracted by a wheel or

some other support, attached to the top of a pole on which the pair of birds place their nest. The nest is often a huge structure, composed of sticks, some of them of remarkably large size, and of twigs, bark, sod, and all kinds of rubbish, such as seaweed, corn stalks, barrel staves, pieces of net and rope, and in fact anything that the bird can gather. It is lined with finer materials, such as bark, weeds, sticks, and finer rubbish. The eggs are almost always three in number, and are exceedingly handsome, having a buff ground color, with large splotches of reddish brown of various shades and of drab. Apparently the female is the only one of the pair that takes part in the incubation, but both male and female assist in the care of the young, which remain in the nest for many weeks until they are able to fly.

The American Osprey is a rare permanent resident in practically all of Louisiana. It has been reported from Grand Isle, Little Barataria Bayou, and Avery Island; north to Baton Rouge, Ouachita River and Black Bayou Lake in Ouachita Parish, and Frierson in De Soto Parish, though it is more frequently observed in southern Louisiana. It breeds in Louisiana from February to April. It is apparently now less numerous than formerly.

This species was noted by Andrew Allison at Lobdell on May 15, 1903; and by E. R. Kalmbach on Black Bayou in Cameron Parish on May 1, 1919. Robert Butler reported in 1933 that the species bred in West Feliciana Parish. The writer, moreover, noted it along Little Barataria Bayou, on June 10, 1933. Specimens in the museum of Tulane University were taken at Lewisburg on October 8, 1874; and on Timbalier Island. George H. Lowery, Jr., has noted it at Black Bayou Lake near Monroe; and on May 8, 1936, 30 miles west of Baton Rouge; and Ambrose Daigre at Grand Isle, April 26 and 30, 1936.

Family FALCONIDAE

AUDUBON CARACARA

Polyborus cheriway audubonii Cassin

The Audubon Caracara, a tropical species, is only a casual visitor to the coast region of southern Louisiana from the Mississippi River to Cameron Parish. It is reported to occur at all seasons of the year, but there is no actual record of its breeding in the State; in fact, the definite records of its occurrence in Louisiana are few.

A specimen in the United States National Museum was taken in Cameron Parish on January 9, 1879, and another was sent to the Smithsonian Institution by G. Würdemann from Calcasieu Pass in the spring of 1854. The writer observed a pair of these birds in a brushy pasture near Kenner on December 14, 1932; and a single bird at Oneida, near Convent, on March 8, 1938.

DUCK HAWK

Rhynchodon peregrinus anatum (Bonaparte)⁶⁹

The Duck Hawk, or, as it is often called, 'peregrine falcon', is one of the best known North American hawks, although it is not in any particular locality to be called common. It is of moderate size, with long, pointed, strong wings, dark brown or slaty blackish upper body surface, and white below with dark spots or streaks. Its broad, black mustache also is a good field character.

It is particularly fond of the marshes, the river valleys, the mountains, cliffs, and canyons. Probably no other bird in North America, with the possible exception of the swifts, is as rapid in flight as this well-known bird. This quality, of course, in all probability, was one of the reasons for its selection by the falconers of the Old World, who trained this bird to hunt for them. It is usually a solitary bird, although it sometimes migrates in company with the other hawks. Its note is a shrill cackle or wild scream, and is often repeated many times in succession.

⁶⁹*Falco peregrinus anatum* of the 1931 A. O. U. Check-List.

This bird lives largely on other birds, and attacks those of considerable size, like grouse, ptarmigan, and pigeons, as well as song birds. The power of the Duck Hawk as it strikes its prey is almost unbelievable, and it has been known to kill a Red-shouldered Hawk, even to knock down a bird as large as the Blue Goose. Sometimes it preys on small mammals, and occasionally on large insects.

The aerie of this falcon is usually on a cliff, either along a stream or in the mountains. Sometimes it nests in hollows in large trees. Wherever the nest is placed it is usually well concealed from observation, and sometimes is not very accessible. Occasionally it uses the nest of some other bird, such as an eagle or a hawk. The eggs are usually three to five, of a deep cream color with numerous markings of dark brown, these markings sometimes so close together that the whole egg appears of this color. Both male and female assist not only in the incubation duties, but in taking care of the young.

The Duck Hawk is a rare winter resident, from October 24 to May 1, in most parts of Louisiana, from the mouth of the Mississippi River, Grand Isle, the Rainey Wild Life Sanctuary, and Cameron Parish, north to Lake Providence, Monroe, Black Lake in Natchitoches Parish, and Lake Bistineau, but is more frequently seen in the Gulf Coast region, where in winter its prey is more easily obtained. There is apparently no breeding record for the State.

E. R. Kalmbach reported one seen on May 1, 1925, south of Gueydan, where it was stirring up flocks of American Golden Plovers in the rice fields. A specimen was collected by Winston E. Nolan on the Vermilion River 10 miles south of Abbeville on December 22, 1932. A. M. Bailey noted the species at Chenier au Tigre between December 8 and 18, 1925. He collected three specimens on Timbalier Island, October 12, 1916; and, at Pilot Town in the Mississippi River Delta, two on October 24, and one on October 25, 1928. A specimen in the museum of Tulane University was taken at Raceland on December 12, 1888. George H. Lowery, Jr., saw this falcon at Grand Isle, October 27 and 28, 1935; and

J. S. Campbell reports it from Black Lake in Natchitoches Parish, and from Lake Bistineau, most commonly during October. The writer observed this species near the club house on the State Public Shooting Grounds in the Mississippi River Delta on January 23, 1932; on Octave Pass near the Delta Duck Club in the Mississippi River Delta on January 22, 1932; and in Dead Woman Pass, Mississippi River Delta, on December 18, 1932. An immature specimen was obtained by George H. Lowery, Jr., at Baton Rouge on September 27, 1936; and one bird seen in Cameron Parish, about January 1, 1938, by the same ornithologist.

EASTERN PIGEON HAWK

Tinnunculus columbarius columbarius (Linnaeus)⁷⁰

This hawk is a small edition of the Duck Hawk, although not quite so fierce or relatively so powerful, and it may be distinguished by its broadly light and dark barred tail and smaller size.

It lives not only in the woodlands, but also in all kinds of open country, frequenting the swamps, forests, and the mountains. In the winter it is frequently found in the timber along rivers. Its flight is swift and strong and it has little difficulty in overtaking most other birds, although it is apparently not so fast as the Duck Hawk. It rarely ever is seen in any considerable numbers, but is a more or less solitary bird even in winter.

Its food consists to a large extent of small birds, such as sparrows, but it takes also field mice, and other small mammals, scorpions, together with grasshoppers, crickets, dragonflies, beetles, and other insects. The damage that it does to small birds is one of the counts against it, although many of the birds that it takes are probably sick or crippled.

The nest of this bird is placed in the forest or on a cliff, either in a tree, in which case it is often at a great distance from the ground, in the hollow of a tree, on a ledge, or in a cavity on the face of a cliff; sometimes it

⁷⁰*Falco columbarius columbarius* of the 1931 edition of the A. O. U. Check-List.

makes use of the deserted nest of a crow or other large bird. When the nest is constructed by the birds themselves it is composed of twigs, and lined with grass, bark, moss, and similar materials. The eggs are about five in number, white or light brown, marked with various shades of reddish brown. It requires about three weeks for the eggs to hatch, in which operation both the male and female take part. Sometimes the adults are very solicitous for their nest and will attempt to intimidate an intruder by feigning attacks.

The Eastern Pigeon Hawk is a rare winter resident, from the middle of September to May 2, in the coast region of southern Louisiana, from Saint Tammany Parish and the Mississippi River Delta west to Grand Isle and Cameron Parish, and north to Madisonville and Lake Providence. It is most frequently observed in the immediate vicinity of the Gulf Coast and along the Mississippi River below New Orleans.

Specimens of this subspecies in the museum of Tulane University have been examined from the following localities: Madisonville, October 18, 1925; Bayou St. John near New Orleans, September 26, 1888; Boutte, Saint Charles Parish, November 19, 1888; and Bayou La Barre, November 17, 1889. An adult female in the United States National Museum was collected at New Orleans, January 10, 1904, by Andrew Allison; and one in the Chicago Academy of Sciences, at Lake Pontchartrain, in 1889 by W. H. Ballou. Another specimen, in the museum of the Louisiana Department of Conservation at New Orleans, was taken at Grand Isle on March 22, 1931. The writer has observed this species, in most cases a single individual, at the following localities, these records apparently referring to the typical form (*Tinnunculus columbarius columbarius*), which is probably the prevailing subspecies in Louisiana: Myrtle Grove in Plaquemines Parish on January 24, 1932; Johnson Pass, Mississippi River Delta, December 17, 1932; Pass a Loutre on December 17, 1932; Willow Pass, Mississippi River Delta, on December 20, 1932; near Lake Barre on December 23, 1932; Boudreaux Lake, Terrebonne Parish, December 24,

1932; Black Bayou in Cameron Parish, January 24 and 27, 1928. Ambrose Daigre records it from Grand Isle, April 11, and May 2, 1936; also April 9, 10, 11, and 15, 1937; and L. E. Hicks from Lake Providence, December 22, 1931.

WESTERN PIGEON HAWK

Tinnunculus columbarius bendirei (Swann)⁷¹

The Western Pigeon Hawk is a rare winter resident, from September 30 to March 10, casually to June 1, in southern Louisiana, from the Mississippi River to Cameron Parish, but it has not been detected north of the vicinity of New Orleans. Since this subspecies is difficult to identify in the field, the only records made use of here are from specimens actually examined.

In the museum of Tulane University there are the following examples: Plaquemines Parish, no date; New Orleans, October 16, 1876; Kenner, west of New Orleans, October 4, 1888; Indian Bayou, Vermilion Parish, October 16, 1889, collected by George E. Beyer; and Calcasieu, December 5, 1895. In the museum of the Louisiana Department of Conservation at New Orleans there are specimens from Jefferson Parish, September 30, 1932, collected by Winston E. Nolan; Grand Isle, June 1, 1932; and from Louisiana, without further indication of locality, February 10, 1933. A. M. Bailey obtained at Chenier au Tigre one bird on December 17, 1925, another on March 10, 1931; and George H. Lowery, Jr., one at Grand Isle on April 16, 1936; all examined by the present writer. Record of a single specimen taken by F. S. Hersey in Vermilion Parish, February 17, 1916, is furnished by J. L. Peters.

EASTERN SPARROW HAWK

Cerchneis sparveria sparveria (Linnaeus)⁷²

This small hawk is readily distinguished by its reddish tail and whitish dark-spotted or streaked under parts. As a species this is the smallest of our Louisiana hawks. The

⁷¹*Falco columbarius bendirei* of the 1931 edition of the A. O. U. Check-List.

⁷²*Falco sparverius sparverius* of the 1931 edition of the A. O. U. Check-List.

two subspecies that are found in the state, the Eastern Sparrow Hawk and the Little Sparrow Hawk, differ only in size, the latter being smaller.

The Sparrow Hawk is a bird of the more open country and not so frequently haunts the woods. It may regularly be seen sitting on the topmost branch or on some other exposed portion of a tree, on a telephone or telegraph pole, telegraph wire, or fence-post, in fact, in any place where it can obtain a good view of the surroundings. It is the one hawk that more or less readily adapts itself to the vicinity of man and frequently takes up its abode in towns and cities and about country dwellings. While it is strong on the wing and is capable of swift flight it is usually seen hovering or flying leisurely over the more open country, commonly in pursuit of its prey. Sometimes it gathers into flocks of considerable size, particularly during migration, at which periods it associates with the other migratory hawks, particularly the smaller kinds. It has a loud, rather pleasing note, something like the syllables 'killy', many times repeated, although it has also other notes. At times it is very noisy.

The chief food of this bird is mice and insects, particularly the larger species such as grasshoppers, but it feeds also on other mammals, reptiles, spiders, or small birds. Except when other food is not readily obtainable does it seriously disturb song birds.

This hawk breeds not only along the edges of woodlands, in swamps, and similar places, but in the orchards, villages, or even in relatively large cities. It places its nest usually in a hollow of a tree, either a natural one or an abandoned woodpecker hole, in a small cave or hole in the bank, or even about the cornices and other crevices of buildings in the country, in towns or cities, occasionally even in a bird house put up for the purpose. The nest contains often practically no material, but at other times the cavity is largely filled with leaves and grasses. The eggs are about five in number, white or buff, even cinnamon colored, blotched and

spotted with different shades of brown, sometimes with lavender. The male and female both assist in the duty of incubation, which extends over about four weeks. The parent birds are very active in protecting their young, and drive away practically all other birds that approach.

This race of the Sparrow Hawk is a winter resident, from August 1 to February 26, accidentally to June 26, over probably all of Louisiana, although the writer has seen specimens from only the southern portion. It is probably more common than actual records indicate, since it is not distinguishable in the field with certainty from the Little Sparrow Hawk, which is the breeding subspecies in this State.

Specimens from the following localities have been examined: Bedico River, Tangipahoa Parish, August 1, 1890; Mandeville, December 15, 1890; Deer Range Plantation in Plaquemines Parish, January 12, 1866, and January —, 1866; New Orleans, August 1, 1890, and September 9, 1886. All these are in the museum of Tulane University. In the museum of the Louisiana Department of Conservation at New Orleans there are the following specimens: Jefferson Parish, November 22, 1932; Marrero, near New Orleans, October 25, 1931, and December, 1932. A specimen in the State Department of Agriculture at Baton Rouge was taken in New Orleans on October 26, 1932; and another on January 6, 1933, both by Glenn Hopkins. One in the United States National Museum was shot near Kenner on February 26, 1900, and another was collected by A. H. Howell near Hackley on February 23, 1912. An adult female collected at Madisonville on June 26, 1888, is clearly this form, but it apparently is a bird that failed to migrate northward at the proper season. Further examples identified by the writer are from Baton Rouge, October 19, 1937, collected by L. S. Simon; from Lottie, November 23, 1937, and Grand Isle, October 5, 1937, by George H. Lowery, Jr.

LITTLE SPARROW HAWK

Cerchneis sparveria paula Howe and King⁷³

The Little Sparrow Hawk is a common permanent resident throughout Louisiana, except in the immediate vicinity of the coast of the Gulf of Mexico, reported from Bedico River, Houma, Gillis, and Black Bayou in Cameron Parish; and north to Lake Providence, Oak Grove in West Carroll Parish, Mer Rouge, Monroe, Bienville, and Caddo Lake. It is also a common winter resident, from late August to April 26, along the Gulf Coast south of its known breeding range, to the Rainey Wild Life Sanctuary, and particularly the delta of the Mississippi River. It breeds from April to June. It is scarcely distinguishable in the field from the Eastern Sparrow Hawk, and some of the sight records in winter and the migrations may belong to that race.

A specimen in the Biological Survey collection in the United States National Museum was collected by A. H. Howell at Slidell on October 28, 1908. There are also specimens in the museum of Tulane University from the Bedico River in Tangipahoa Parish, taken, May 16, 1890, and May 31, 1889; from Mandeville, November 11, 1891, October 13, 1876, December 11, 1892, and February 7, 1893; from Madisonville, November, 1887, July 1, 11, and 18, 1888; New Orleans, October 18, 1891, and October 31, 1888; and Deer Range Plantation, Plaquemines Parish, January 12, 1866; and one in the museum of the Louisiana State University, obtained by George H. Lowery, Jr., six miles northwest of Grand Isle on January 28, 1938.

The writer noted this hawk at Westover in West Baton Rouge Parish on June 15, 1933, and also at Gillis in Calcasieu Parish on June 19, 1933. E. R. Kalmbach reported it at Thibodaux on May 25, 1919, and near Tallulah on June 30, 1924. A specimen was taken by J. Fairie at Prairie Mer Rouge in 1853, and is in the United States National Museum; and another, collected in June of the same year is now in the Chicago Academy of Sciences. Vernon Bailey, at Mer Rouge, saw four young just beginning to fly and also

⁷³*Falco sparverius paulus* of the 1931 edition of the A. O. U. Check-List.

an adult on June 7, 1892. A specimen was obtained by R. J. Thompson at Provencal in Natchitoches Parish on May 31, 1892; and the writer saw a single bird at Caddo Lake on June 18, 1933. Sparrow Hawks, presumably of this subspecies, have been observed by the writer in many localities in the southern part of the State in winter: from Little Barataria Bayou on January 26, 1932, to Johnson Pass and Dennis Pass, in the Mississippi River Delta, on December 17, 1932; Grand Chenier on December 30, 1932; Calcasieu Lake, December 30 and 31, 1932; and at the Orange-Cameron Land Company's club house in southwestern Cameron Parish on January 24 and 26, 1928. At Bienville J. S. Campbell has found the Sparrow Hawk breeding during May and June.

Order GALLIFORMES

Family TETRAONIDAE

GREATER PRAIRIE CHICKEN

Tympanuchus cupido americanus (Reichenbach)

The Greater Prairie Chicken is a casual winter visitor to northern Louisiana, of which there are but two certain records for the State, both of them in the museum of the Louisiana Department of Conservation at New Orleans. One of these is a specimen with no other data than West Louisiana; and the other is a specimen with no further information than that it was taken in the State of Louisiana. A bird killed by R. F. Clark about December 20, 1925, in Lincoln Parish, five miles northeast of Ruston, was also probably of this race and was so recorded by George H. Lowery, Jr.⁷⁴

ATTWATER PRAIRIE CHICKEN

Tympanuchus cupido attwateri Bendire

The Attwater Prairie Chicken was formerly a common permanent resident on the coast prairies of Louisiana, from Abbeville, Opelousas, and Bayou Teche, west to the Sabine

⁷⁴Bull. La. Poly. Inst., Vol. XXIX, No. 4, November, 1931, p. 22.

River in Cameron and Calcasieu parishes. It is now rare and apparently restricted to a small area in the western parts of Cameron and Calcasieu parishes.

Two specimens in the United States National Museum were taken during the spring of 1854 by G. Würdemann at Calcasieu Pass; and a specimen in the museum of Tulane University was collected at Rayne on February 25, 1889. Another in the Museum of Comparative Zoölogy at Cambridge, Mass., was obtained in Cameron Parish on February 18, 1907. A. M. Bailey reported it from Cameron Farm in Cameron Parish, 14 miles south of Vinton, February 26, 1919; and A. C. Bent recorded it from Iowa (La.). Eggs of this bird were sent by G. Würdemann to the Smithsonian Institution from Calcasieu Pass in 1854.

Family PERDICIDAE

EASTERN BOBWHITE

Colinus virginianus virginianus (Linnaeus)

No upland game bird is so well or widely known in the eastern United States as is the Eastern Bobwhite. It is found in almost all parts of this region, though represented by different subspecies in Florida and Texas. It is one of the birds that has acquired its name from a striking peculiarity of its call, which, in this case, is the resemblance to the syllables 'bob-white'.

The Bobwhite is fond of the more open upland areas, and is not often found in dense forests, although the margins of the woodlands are often resorted to for protection. Neither does it seem to be fond of the open short-grass areas, living chiefly in the thickets and about the edges of fields under the protection of the tall grass and bushes, sometimes even in more or less swampy areas, particularly where there are blackberries or other briars. It is partial also to weedy fields, cotton fields, and abandoned cultivated lands. Its brown upper parts, pure white throat, and white or buffy white lower parts, with various spots and other markings of black and dark brown, render the bird easily identified in any locality.

It has a strong and rapid flight, which starts often with a whirr; and it is an object of sport that well tests the skill of the hunter. It assembles sometimes into flocks of considerable size, which keep together for a considerable period unless disturbed, when the birds sometimes scatter, but usually come together again. At night they roost on the ground in a circle with heads outward so that they can be off on the wing at the slightest alarm.

This bird has an exceedingly varied diet. It lives on various kinds of wild fruits, seeds, leaves, and buds, and a little waste grain. The most interesting part of its food, however, consists of insects, and at certain times of the year the bird is exceptionally useful in cultivated fields, on account of its great destruction of such insect pests as the squash beetle, caterpillars, army worms, cutworms, potato beetle, cotton-boll and other weevils, grasshoppers, locusts, and the chinch bug. For this reason the Bobwhite should receive full protection from the farmer, since this bird on his land is worth much for its effect on the enemies of growing crops.

The nest is built almost always on the ground, and is rather cleverly concealed in the grass or other vegetation. This bird chooses the varied cover in old fields, in brush, margins of woodlands or swamps, in grassy or other cultivated fields. The materials consist of various kinds of grasses, weeds, or leaves, and the lining is finer materials of the same kind. The eggs are about 15 in number, white, unmarked, and decidedly pyriform in shape. It takes a little over three weeks to hatch the eggs, and both male and female take part in the incubation. The male often takes care of the young, and both parents are unusually solicitous for the welfare of their family.

The Eastern Bobwhite is a common permanent resident in all of Louisiana, excepting the marshes and water-covered swamps, from Calcasieu Pass, Mermentau, the Rainey Wild Life Sanctuary, and Bayou La Fourche, north to West Carroll Parish, Monroe, Bienville, and Bossier Parish. It



KING RAIL (*Rallus elegans*) ON NEST.
Hinsdale, Ill., May 20, 1928.
(Photograph by A. M. Bailey.)

breeds chiefly from March to September, and there are records of eggs from the middle of April to October 2.

Specimens of this bobwhite were collected by E. G. Wright at Avery Island, May 13 and 19, 1930; and by Wharton Huber at Chenier au Tigre on January 13 and 29, 1928. It was observed by the writer at Saint Joseph on June 16, 1933; at DuLac on Grand Caillou Bayou, Terrebonne Parish, on June 22, 1933; at the Florence Club 16 miles south of Gueydan on December 29, 1932; Lake Charles, Vinton, and Toomey on June 20, 1933; and at Many and De Ridder on June 19, 1933. At Bienville J. S. Campbell found on September 15, 1933, a nest containing 15 eggs which hatched on October 2.

Family MELEAGRIDIDAE

EASTERN TURKEY

Meleagris gallopavo silvestris Vieillot

This fine game bird was formerly not uncommon as a permanent resident over most of the State of Louisiana, from the southwestern corner along the Sabine and Calcasieu rivers, and southeastern Louisiana near the mouth of the Pearl River, north to Tallulah and to East Carroll, Winn, Union, Bienville, and Bossier parishes. It is now, however, greatly reduced in numbers and confined chiefly to the central northern and northeastern parts of the State in Concordia, Richland, Jackson, Union, Tensas, Madison, and East Carroll parishes. It inhabits chiefly the hardwood and pine forests of the upland, but also in many places the bottomlands as well. It begins to breed in early April, and eggs were taken at Hammond on April 17, 1897. Robert Butler reports it breeding, though rare, in West Feliciana Parish.

A specimen of this subspecies in the museum of the Louisiana Department of Conservation at New Orleans was taken at Tallulah in December of 1931; and another in the Colorado Museum of Natural History is from Saint Mary Parish May 1, 1922. J. S. Campbell states that it is present in small numbers in the more remote swamps of Bienville

Parish, and that an adult and young were seen in Saline Swamp south of Bienville during the summer of 1932. George H. Lowery, Jr., says that this fine bird is still common around St. Francisville, but decreasing. He states also that it was observed at Chestnut, in northeastern Winn Parish in 1935; in southern Bossier Parish in December, 1935; and along the Tensas River in Madison Parish in June, 1933, and December, 1934.

Order GRUIFORMES

Family GRUIDAE

WHOOPING CRANE

Limnogeranus americanus (Linnaeus)⁷⁵

The beautiful Whooping Crane was formerly a common, but is now a very rare winter resident, from November 23 to March 11, in the Grand Chenier region of western Louisiana, east to Chenier au Tigre and the Louisiana State Wild Life Refuge.

There are the following recent records: In 1899 the bird was reported to Vernon Bailey as common in winter at Iowa (La.); a specimen in the Museum of Comparative Zoölogy was collected in Cameron Parish, February 15, 1909; seven were said to have been seen by Stanley C. Arthur on the Rockefeller Wild Life Refuge in February, 1916;⁷⁶ also four birds in the winter of 1928 to 1929 in the same locality.⁷⁷ A. M. Bailey recorded three seen in November, 1916, at Chenier au Tigre, and also several during the autumn of 1917. He also reported their wintering in the same locality in 1925, and as observed during the winters of 1929, 1930, and 1931.⁷⁸ In the same area Lionel Le Blanc saw seven birds on December 16, 1933.⁷⁹ E. W. Nelson recorded two at Pecan Island on March 11, 1928, and January 7, 1929, and the species was reported to him as formerly common there in winter.⁸⁰ F. L. Jaques saw two individuals

⁷⁵*Grus americana* of the 1931 A. O. U. Check-List.

⁷⁶Bull. La. Dept. Cons., No. 5, 1918, p. 35.

⁷⁷Bull. La. Dept. Cons., No. 20, December, 1931, p. 231.

⁷⁸Wilson Bulletin, Vol. XLIII, No. 3, September, 1931, p. 193.

⁷⁹Bailey, The Auk, Vol. LI, No. 3, June 28, 1934, p. 399.

⁸⁰Condor, Vol. XXXI, No. 4, July 15, 1929, p. 146.

in the same region in the spring of 1930.^{*1} R. B. Worthen, in a letter states that he saw 13 Whooping Cranes near White Lake in Vermilion Parish in January, 1933, and that they were reported to him as present there during the winter of 1933-1934. Ambrose Daigre reports that a flock of nine was seen near Gueydan on November 23, 1935; one of these was killed by a hunter, and the writer has seen this bird in the museum of the Department of Conservation at New Orleans.

SANDHILL CRANE

Grus canadensis tabida (Peters)

This well-known western bird is one of the largest inhabiting North America. In fact it is so conspicuous by its size that it has been greatly reduced in numbers during the past 25 years, and now comparatively few are to be found in the United States. About four feet in length, and nearly seven feet in expanse of wings, and by reason of its long legs, standing three or four feet high, it is a bird easily picked out wherever it happens to be seen. Almost uniform slate color, with some reddish coloration on the top of the head, it can be confused with almost no other bird except perhaps the Great Blue Heron.

It is a bird of the open plains, prairies, and marshes, and sometimes appears, particularly in migration or in winter, in flocks of great size. It has a powerful, well sustained flight, and is one of the most impressive of our birds. Its loud call sounds something like the syllables 'kr-roo' several times repeated and long drawn out, and has a rather musical far-carrying quality.

Ordinarily the bird feeds along the shore in the vicinity of ponds, lakes, streams, and marshes, but sometimes it frequents even the pine woods and the vicinity of thickets. It lives on the seeds, roots, and other parts of water plants, grain of various kinds, obtained from the fields after harvest, and it is fond of even potatoes; various kinds of berries, tadpoles, small fishes, lizards, snakes, rats, mice,

^{*1}Roberts, *Birds Minn.*, Vol. I, June 6, 1932, p. 429.

worms, grasshoppers, beetles, and other large insects. The size of the bird and its power of vision aid it not only in its feeding but in all of its other activities.

The nest of this crane is placed usually on the prairies, about prairie ponds, the edges of marshes, or even in the open woodlands. Sometimes the bulky structure is built in the water, and at other times it is on dry land. It is a heap of vegetation, such as rushes, reeds, grasses, and other plants, and has a well-marked depression for the eggs in the middle of the top. The ordinarily two eggs are of an olive buff or buffy brown color, variously marked with drab and brown. When the young are hatched they soon leave the nest and follow their parents, which they seem to be able to do with ease, since they run rapidly when they are still very young. They are fed by regurgitation, at least for a considerable period, and are cared for by the parents until they are able to fly.

The Sandhill Crane was formerly a common, but is now a rare winter resident in the Gulf Coast region of southwestern Louisiana, and there are records from January 3 to late February. It is a very rare transient in the central and northern parts of the State, from which localities there are no recent records.

A. M. Bailey reports that several flocks wintered near Cameron Farm, 14 miles south of Vinton, in 1919, and that they were seen frequently during the latter part of February. Four cranes, also presumably of this race, were observed by him at Chenier au Tigre on March 11, 1918. A flock of 34 birds seen on January 3, 1911, at Gum Cove in the southwestern part of Cameron Parish by W. L. McAtee, was probably of this subspecies, *Grus canadensis tabida*.

FLORIDA CRANE

Grus canadensis pratensis Meyer

The Florida Crane is a rare permanent resident, possibly now of only casual occurrence, in southwestern Louisiana, but it was formerly more numerous. H. H. Kopman

reports that in May of 1907, it was common near Calcasieu Pass.⁵² J. D. Figgins reported it as breeding near Black Bayou in Cameron Parish in July, 1919. It apparently now nests if at all only in Cameron Parish, where two young were obtained in 1918.⁵³

Family ARAMIDAE

LIMPKIN

Aramus pictus pictus (Meyer)

The Limpkin is a rare, possibly permanent, resident of southwestern Louisiana.

There is, however, but a single record of this bird for the State, an individual taken in May, 1935, by Fred Weber at Moss Lake, 10 miles north of Lake Charles. This bird was perfectly described to George H. Lowery, Jr., and identified from a colored picture, so that it was, without any reasonable doubt, an example of this species. It apparently is rare in that vicinity, as Mr. Weber does not remember having seen any other bird of this kind during his residence there. It may, however, have been a wanderer from farther west. There are many places in Louisiana that would form ideal haunts for this species, and it is not improbable that the bird will be found in future at other localities.

Family RALLIDAE

KING RAIL

Rallus elegans elegans Audubon

One of the largest rails in North America, the King Rail is well known to sportsmen as well as to naturalists. Its size, the rufescent, black-streaked upper parts, and cinnamon anterior lower surface will distinguish this bird from all others, save its close relative, the Clapper Rail.

In general the King Rail inhabits the fresh water marshes, although, in places, it does occur also in the salt water areas occupied by the Clapper Rail. Fresh water

⁵²Bird-Lore, Vol. IX, No. 5, October, 1907, p. 238.

⁵³Bull. La. Dept. Cons., No. 20, December, 1931, p. 233.

swamps and marshes throughout most of the interior of eastern North America are frequented by this bird. It is not so abundant as some of the smaller rails, like the Sora, although it is probably more numerous than the individuals observed might indicate, this being very naturally the case on account of its habits. It lives in the swampy tangles of briers, weeds, and various water plants, about lakes and ponds, and in some of the areas is difficult of approach. It rarely ever is found on dry ground, and if its favorite haunts are destroyed it disappears from the region.

While this bird can fly considerable distances, if necessary, its flights are usually only so long as necessary to seek concealment. It has the faculty of keeping concealed by skulking rapidly through the grass whenever alarmed, instead of taking flight as many other birds do. It can swim and even dives well. It is not a gregarious bird and is found almost always singly or in very small flocks.

Its voice is rather harsh and not unlike some of the notes of a hen; in fact this is difficult to distinguish from that of the Clapper Rail. It has, however, a number of different vocal performances. Perhaps its hen-like voice has earned for it the name of 'fresh water marsh hen' or 'meadow hen', by which it is often known to those that are not ornithologists.

This bird lives on various kinds of animals, such as crustaceans, insects, worms, small fishes, tadpoles, and other similar kinds, and varies this with seeds of different plants from the swamps and marshes.

The nest of this bird is found along the shores of ponds and marshes, and is placed on the ground in the grass. It is a rather bulky structure of grasses and weeds, often built to a height of six or eight inches, and sometimes partly over-arched. On occasion the bird repairs the nest while it is being occupied, and even makes use of it for several successive seasons. The eggs are usually 6 to 12, and are of a dull creamy white, with scattered markings of brown and violet.

The downy young are coal black, and are very well taken care of by the parents until they are able to shift for themselves.

The King Rail is a fairly common permanent resident in southern Louisiana, from Cameron Parish, Chenier au Tigre, Rainey Wild Life Sanctuary, New Iberia, and Octave Pass in the Mississippi River Delta, north to Lake Catherine, Mandeville, Baton Rouge, and Scott in Lafayette Parish; also a fairly common permanent resident in northern Louisiana, north to the northwestern corner of the State, Bienville, and farther eastward at least to Monroe. It frequents the coastal marshes and the lakes and ponds of the interior. It breeds in most parts of the State from April to July, and there are records of eggs from May 1 to July 22. Nestlings of this species were obtained by E. R. Kalmbach near Gueydan on July 22, 1925, and other individuals on August 10, 1925.

A specimen in the Biological Survey collection in the United States National Museum was taken by A. K. Fisher on Octave Pass in the Mississippi River Delta on January 31, 1911; and another at Oberlin, May 23, 1936, by T. D. Burleigh. Specimens in the museum of Tulane University are from Diamond in Plaquemines Parish, May 6, 1864; near New Orleans, October 24, 1891, December 3, 1892, November 21, 1865, April 4, 1874, and September 7, 1890; Kenner in Jefferson Parish, December 1, 1889; Lake Catherine, March 24, 1890; Scott in Lafayette Parish, February 13, 1893; and Sabine Station in southwestern Calcasieu Parish, April 12, 1890. A. M. Bailey collected several at Chenier au Tigre, January 1, 3, and 5, 1934; and E. G. Wright, others at Avery Island, May 7, 11, 13, and 15, 1930; all of which the writer has examined. One was taken by E. S. Hopkins near the club house of the Orange-Cameron Land Company in southwestern Cameron Parish, January 26, 1928. George H. Lowery, Jr., considers this rail a common permanent resident in the Baton Rouge region about the City Park Lake in Baton Rouge itself. J. S. Campbell gives it as a common resident at Bienville, where he found five nests on a pond

in May, 1932. Near Lucky he found two nests in May, 1932, and collected there one bird on April 10, 1932. He has observed it also at Bienville throughout the winter. One female was obtained at Hackberry on June 20, 1937, by George H. Lowery, Jr.

LOUISIANA CLAPPER RAIL

Rallus longirostris saturatus Ridgway

'Thin as a rail' is a very common expression, and one very appropriate to any of the birds commonly called rails, since they are so built that they can easily slip through the dense vegetation of the marshes where they live. The Louisiana Clapper Rail, commonly known also as 'marsh hen' or 'salt water marsh hen', is one of the most abundant birds on the coastal marshes of the Gulf of Mexico. It is a bird somewhat over a foot long, with a rather long neck and slightly curved bill, olive brown above and at least partly cinnamon color below.

Its home is in the marshes of the coast region, since it is seldom found far from salt water. It spends most of its time in the grass, and when pressed usually prefers to run through the marsh rather than to fly. When flushed it has a rather labored flight, and soon drops into the grass again. Notwithstanding this, it is capable of sustained flight. The bird is also a good swimmer, although it apparently does not engage in this activity regularly. It is usually found singly or in pairs and is much more often heard than seen, since the density of the vegetation in the places where it lives effectively hides it from view, but its loud cackling voice, which has given it the name Clapper Rail, is heard at certain times of the year on every hand in the marshes.

This rail subsists on aquatic animals such as snails, fiddler crabs and other crustaceans, grasshoppers, aquatic insects, and fish fry, as well as the seeds and other parts of water plants.

It breeds in the same marshes in which it passes most of its time, placing its nest on the ground or in the low

grass. This is composed of reeds, grasses, rushes, and other marsh vegetation, and lined with finer grass. Sometimes the bird establishes a well defined runway leading to the nest to facilitate approach and departure. The bird does not nest in colonies, but its homes are scattered promiscuously over the marsh areas. The eggs are buff, with spots of reddish brown, gray, and lavender, and are usually from eight to ten in number. The coal black young are able to follow their parents soon after they are hatched. This bird, like many of the other inhabitants of the marsh is much at the mercy of floods and storms, and in certain years there is a large mortality, not only of eggs, nest, and young, but sometimes of the adults themselves.

The Louisiana Clapper Rail is a common permanent resident in the marshes bordering the Gulf Coast, and it is recorded from the North Islands, Freemason Island, and The Rigolets, west to Grand Isle and the Orange-Cameron Land Company's ranch in southwestern Cameron Parish, and north to New Orleans. It breeds from March to July, and there are records of eggs from March 23 to June 23.

Specimens in the Biological Survey collection in the United States National Museum are from Main Pass in the Mississippi River Delta, January 31, 1910; and from Octave Pass in the Mississippi River Delta, January 31, 1911, February 2, 3, and 4, 1911. There are specimens in the museum of Tulane University from the mouth of the Mississippi River on January 16, 1884; from the Quarantine Station in Saint Bernard Parish, March 22 and 23, 1900; near The Rigolets, February 25, 1893; the shore of Lake Pontchartrain, November 11, 1887; New Orleans, October 31, 1892; and Grand Isle, July 8, 1900. A. M. Bailey obtained others at Chenier au Tigre, May 13, 1930, and near Pilot Town, October 24, 1928. Wharton Huber collected specimens of this rail at Chenier au Tigre on January 16, 18, 20, and 25, 1928. E. S. Hopkins found eggs at Grand Isle on April 16 and 22, 1926. The writer observed the species on the North Islands, June 4, 1933; in Ronquille Bay, June 8, 1933; on Shell Island, Plaquemines Parish, June 8, 1933; Lake Felic-

ity, December 23, 1932; the Rainey Wild Life Sanctuary, January 22, 1928; and the Orange-Cameron Land Company's club house in Cameron Parish on January 25 and 26, 1928.

Additional specimens have been taken as follows: at Cameron Farm in Cameron Parish, June 16 and 17, 1919; Lake Borgne, January 24, 1918; Mussell Bayou, Lake Borgne, March 23, 1917, and November 18, 1916; Timbalier Island, June 14, 1918, all by A. M. Bailey; and Bayou Fermen, November 18, 1916, by S. C. Arthur. Eggs were collected by G. Martin at Delta on April 30, 1902.

VIRGINIA RAIL

Rallus limicola limicola Vieillot

The Virginia Rail is an uncommon winter resident, from September to June 3, in southern Louisiana, from the Mississippi River Delta, Grand Isle, the Rainey Wild Life Sanctuary, and Cameron Parish, north to Gueydan, Bayou Sara, and Slidell. It is apparently not recorded from northern Louisiana, but it doubtless is at least a rare transient in that part of the State. It is not known to breed in Louisiana.

There are specimens of the Virginia Rail in the museum of Tulane University from New Orleans, March 6, 1889, December 28, 1901, and February 6, 1878; from Bayou St. John, near New Orleans, March 14, 1891, and January 20, 1867; and from the Quarantine Station in Saint Bernard Parish, March 23, 1900. A specimen in the museum of the Department of Conservation at New Orleans was obtained near Slidell in January, 1932. There are examples in the Biological Survey collection in the United States National Museum from Octave Pass, Mississippi River Delta, collected, January 31, 1911, by A. K. Fisher; and from Morgan City, November 9, 1925, by R. D. Svihla. E. R. Kalmbach reported the species present south of Gueydan, May 9, 1925; Ambrose Daigre at Grand Isle, on April 7, 1936; and Wharton Huber collected it at Chenier au Tigre on January 31, 1928.

SORA*Porzana carolina* (Linnaeus)

The well known Sora, or as it is sometimes called, 'Carolina Rail', or 'meadow chicken', is a rather small bird, easily distinguished from its relatives by its black throat, whitish and pale grayish under parts, and black-streaked olive brown upper surface. It lives in all kinds of marshes, mostly along fresh water, frequenting also damp meadows or even grass and grain fields. It is one of the most abundant of its family, and is a favorite object of sport, particularly along the coast of the middle Atlantic States. In the early days, when the inhabitants of these regions were unable to account for the sudden appearance and disappearance of the great numbers of this bird, they supposed that the birds burrowed deep down into the mud, and there, in a sort of hibernation, passed the winter. The erratic movements of this rail, evidenced by its appearing suddenly in great numbers where, on the previous day, scarcely one was to be found, and disappearing just as suddenly, gave color to such a theory. There are few game birds of the marsh that are better known or more persistently hunted than the Sora. Fortunately it is an abundant bird, and in those tracts that are covered with reeds and grass, where the tide only at its ebb leaves the ground bare, it lives, because here its agility and shyness give it the best chance of eluding its enemies.

During migration the Sora often moves in flocks of considerable size, and its flight is rather strong and well sustained. In fact, the bird has been found at sea at a distance of several hundred miles from land. However, in the marsh, whenever it is stirred, the bird flies a relatively short distance and with apparent effort. In case the water in its haunts is very shallow the bird prefers to run rather than to fly, as it thus can much more easily escape its enemies. When not alarmed it walks or runs with tail erect, either on the ground, on floating vegetation, or on a log, frequently jerking its head or tail, but when wounded or hard pressed it takes to the water and even dives and clings for a time to

the roots below the surface, until, when forced to breathe, it comes up quietly and hides beneath a mass of floating vegetation, with only its bill out of water.

The food of the Sora is sought in its regular haunts, and consists largely of small mollusks, crustaceans, grasshoppers and other insects, together with marine worms and other aquatic animals; and the seeds of various marsh plants, such as wild oats, wild rice, reeds, and grasses, and, at times, some grain.

The nest of this bird is placed in the grass, usually well above the water. It is a loose platform or mass of grasses, rushes, and weeds, though sometimes completely overarched by surrounding vegetation. The usually 6 to 14 eggs are drab or dull cream color, sometimes with an olivaceous tinge, and with rather large markings of reddish brown and lavender gray. The young hatch in about 14 days. The downy young are dull black and have a rather strange looking tuft of orange colored feathers on the throat. Like the young of similar birds they follow their mother soon after hatching.

The Sora is a fairly common winter resident, from August 1 to May 24, in southern Louisiana, chiefly in the marshes of the Gulf Coast region, from Port Eads in Plaquemines Parish, Marsh Island, Rainey Wild Life Sanctuary, New Iberia, and Cameron Parish, north to Carlisle, New Orleans, and Morgan City. It is a transient in central and northern Louisiana, apparently not common, frequenting there the streams and lakes.

There are specimens of this species in the museum of Tulane University from Bayou St. John near New Orleans, March 30, 1890; New Orleans, March 20, 1874, September 11, 1871, and December 28, 1865; Scott, in Lafayette Parish, March 24, 1893; and Lake Catherine, March 21, 189—. E. S. Hopkins collected it at Grand Isle, April 17, 1926; and G. A. Hillery, at Carlisle, Plaquemines Parish, December 7, 1919, and January 11, 1920. A specimen in the Biological Survey collection in the United States National Museum was taken at Morgan City, November 26, 1925, by Arthur Svihla.

J. S. Campbell reports a single bird collected at Friendship, November 18, 1932; and another found dead in Bienville, March 10, 1932. The species was reported also from the South Pass Lightship, off Port Eads, where one bird struck the light on February 11, 1904. H. W. Pring collected one at Oneida on April 2, 1900.

YELLOW RAIL

Coturnicops noveboracensis (Gmelin)

The Yellow Rail is a rare winter resident, from November 5 to May 1, in southern Louisiana, from the Gulf Coast north to Vinton, Diamond, and probably New Orleans, frequenting chiefly the marshes and rice fields. It is a transient in the rest of the State, but is less frequently observed in the interior than near the coast.

The species was collected at Grand Isle by E. S. Hopkins on March 26, 1926, March 31, 1928, April 4, 1926, and April 8, 1926; and at Isle Derniere by S. C. Arthur on February 2, 1918. It was reported by H. L. Ballowe at Diamond in Plaquemines Parish on December 15, 20, and 25, 1901, and February 25, 1902.

Specimens in the museum of Tulane University were taken at Diamond, December 26, 1893; New Orleans, November 5, 1892, and November 19, 1865; Bayou St. John near New Orleans, March 14, 1891, and April 4, 1874; at Vinton, January 25, 1893, and February 12, 1898; and at Sabine Station in southwestern Calcasieu Parish, December 9, 1892. A specimen in the United States National Museum was obtained at Belle Isle on March 3, 1910, by W. L. McAtee; and another at Johnson's Bayou in southwestern Cameron Parish on May 1, 1883, by an unknown collector. A single individual was flushed by A. M. Bailey at Chenier au Tigre on December 28, 1933.

BLACK RAIL

Laterallus jamaicensis stoddardi (Coale)

The Black Rail is a casual winter visitor in southern Louisiana.

Apparently the only published record is that of Audubon, who writes as follows: "I have received a letter from my friend J. TRUDEAU, M. D., in which he says that his father shot a considerable number of these Rails last winter [1836-37] in the vicinity of New Orleans."¹ Arthur Svihla collected a single female at Morgan City on November 9, 1925; and F. Bradberry another individual at Grand Isle on April 1, 1937.

PURPLE GALLINULE

Porphyryla martinica (Linnaeus)²

This bird is one of the most brilliantly colored of all the water birds inhabiting the United States. It is, as its name indicates, chiefly of a rich purplish blue, except the upper parts of the body, which are olive green; it has a bright red bill, tipped with greenish yellow, and a forehead patch of light blue or bluish white; and is thus altogether a very conspicuously attired bird.

Its home is in the marshes, along the streams, bayous, rivers, lakes, and lagoons of the southern United States, both in the interior and along the coast. Like the rails it lives much in the grass of the marshes, except that it comes out into the open rather more frequently than do the rails. It walks easily and lightly on the lily pads, owing to its long toes, and seems perfectly at home in all parts of the marshy vegetation. It swims readily, but its usual flight is rather labored. When flushed from the marsh it flies ordinarily only a short distance, with legs hanging down to facilitate its dropping into the marsh again. It seems to prefer running to escape an enemy, rather than resorting to its wings; and it dives readily as well. When walking about, which it often does with rapidity, it jerks its tail so frequently as to give the bird a curious appearance. At times it is a noisy bird and it has a variety of notes, one of which sounds like the syllable 'kek' several times repeated.

¹Ornith. Biog., Vol. IV, 1838, p. 361.

²*Ionornis martinica* of the 1931 A. O. U. Check-List.

The food of this bird consists of various kinds of vegetable matter, such as grains, including rice, and various kinds of seeds; of snails and other mollusks, and of worms.

One of the favorite sites for the nest of this bird is on the floating islands that have a rank growth of low vegetation. It breeds also in various parts of the marshes, placing its nest in the vegetation, often over and but a short distance above the water. The nest is composed of rushes, stems, and leaves of various water plants, and the surrounding plants are often brought together and arched above the nest to afford further protection and concealment. Sometimes by bending down the vegetation it constructs a sort of causeway leading to the nest to facilitate its movements back and forth. The usually six to eight eggs are of a buff color, with small spots of brown and drab. The downy young are glossy black.

The Purple Gallinule is a summer resident, from March 26 to October 5, possibly later, and breeds, in most of Louisiana; locally common in the southern, uncommon in the northern, part of the State. It frequents the streams, lakes, and marshes wherever it occurs. It has been reported from Cameron, Chenier au Tigre, Rainey Wild Life Sanctuary, Avery Island, Grand Isle, and Savoie in Plaquemines Parish, north to Dubach in Lincoln Parish and to Tallulah. Also, it is of casual occurrence in winter in the extreme southern part of the State. It breeds from April to July, and there are records of eggs from April 15 to July 10.

Eggs of this species in the museum of Tulane University were obtained at Bayou Couba in Saint Charles Parish; at Diamond; also in Plaquemines Parish; and near New Orleans on April 18, 1894, May, 1896, and May 8, 1894. Eggs in the United States National Museum were collected on Black Bayou in Cameron Parish by R. E. Rachford on June 2, 1886. Birds were obtained by E. G. Wright at Ged in southwestern Calcasieu Parish, June 1, 1930; and at Avery Island, May 13, 15, and 31, 1930, and May 15, 1934; also by Ambrose Daigre at Grand Isle on April 6, 1936. Examples in the museum of Tulane University were taken at Bayou

La Barre, September 3, 1890, and Bayou Des Allemands, May 2, 1875. Specimens in the United States National Museum were collected at Houma, May 17, 1892, by R. J. Thompson; at Gueydan by E. R. Kalmbach, May 17, 1925, July 22, 1925, August 3, 1925, and September 9, 1925. George H. Lowery, Jr., considered it common about Cameron in June, 1935. A single Purple Gallinule was seen east of Tallulah on July 28, 1924, by E. R. Kalmbach; and the writer saw one bird in a roadside pool at Iowa (La.), June 20, 1933. George H. Lowery, Jr., found one at City Park Lake in Baton Rouge, July 17, 1934; and noted the species nesting at Baton Rouge, May 15 to June 8, 1936.

The only definite winter record that we have been able to discover is that of a male taken on January 11, 1920, by G. A. Hillery at Carlisle.

This gallinule is called *Ionornis martinica* in the 1931 A. O. U. Check-List. The genus *Ionornis*, however, is apparently not separable from the genus *Porphyryula* Blyth, the type of which is *Porphyryula alleni* (Reichenbach). Since the book in which *Porphyryula* appeared was published in 1852⁸⁸ this generic name is entitled to priority over *Ionornis* Reichenbach, and, therefore, should be used for our Purple Gallinule.

FLORIDA GALLINULE

Gallinula chloropus cachinnans Bangs

Of much less brilliant plumage than the Purple Gallinule, this bird, nevertheless, is rather easily distinguished by its slaty plumage, brownish olive back, and mostly red bill. It is much more widely distributed in the United States than the Purple Gallinule, as it occurs from the Atlantic to the Pacific oceans, and north to southeastern Canada.

The Florida Gallinule lives in the marshes and the edges of swamps, about lakes, ponds, rivers, and other bodies of water, or out in the open marsh. Here it may be found at home, though not regularly in large numbers in any one lo-

⁸⁸Blyth, Cat. Birds Museum Asiatic Soc., "1849" (1852, after June 20), p. 233.



PURPLE GALLINULE (*Porphyrula martinica*).
Cameron Parish, La., June 6, 1930.
(Photograph by A. M. Bailey.)

cality. It is not often seen in flocks, but lives in favorite locations scattered about in pairs and individuals. Like its relatives it has, when in the marshes, only a labored flight, which is made use of whenever the bird is suddenly alarmed, and it seems to desire to drop into the vegetation again at the earliest opportunity. At such times it rarely flies high, but skims over the top of the vegetation. However, during migration it has a rather strong flight and travels long distances at a considerable height above the ground. Notwithstanding the fact that it has not webbed feet, it is a good swimmer, and it also is rather expert at diving, either to seek food or to elude an enemy, and at such times it frequently hides underneath the vegetation with its body under water and only its head and bill projecting, which among the vegetation of a marsh are very difficult to detect. It has a number of notes, some of which sound like the syllable 'klock' several times repeated, while others are clucking cries of varying quality; and at times it is rather a noisy bird.

This bird seeks its food in its regular living places, where it walks easily over the lily pads, as do the other gallinules, and climbs about the stalks of the larger vegetation. It lives on seeds and roots of grasses, weeds, and various other water plants, on worms, small mollusks, grasshoppers, and other insects.

Like the other gallinules this bird builds its nest in the marshes in which it lives, often about the ponds, marshes, and swamps, usually where the water is not deep. The nest is placed in the vegetation, either just above the water or floating on it, and is composed of leaves, stems, and other parts of water plants. The 10 to 12 eggs have a buffy ground color, with fine dots of dark brown and drab. Both the male and the female assist in the incubation, which covers a period of about three weeks. The young, like those of many water birds, leave the nest soon after they are hatched, and spend a good deal of their time climbing about the rushes and the lily pads of their home. They also swim

well and are able to take considerable care of themselves. Nevertheless the mother carefully looks after the welfare of her shiny black young. .

The Florida Gallinule is a fairly common permanent resident in southern Louisiana, from the Mississippi River Delta, Grand Isle, the Rainey Wild Life Sanctuary, and Cameron, north to Lake Pontchartrain, New Orleans, and Avery Island; and an uncommon summer resident from March 15 in the remainder of the State, north to Lake Caddo and Madison Parish. It frequents both the coastal marshes and the lakes, streams, ponds, and bayous of the interior. It breeds from April to July, and there are records of eggs from the last of April to July 10.

Specimens of the Florida Gallinule in the museum of Tulane University were collected at Bayou Des Allemands, May 2, 1875; New Orleans, March 16, 1893, February 21, 1894, and October 29, 1874; and on Lake Pontchartrain, November 5, 1875. Examples in the Chicago Academy of Sciences were taken at Avery Island by E. G. Wright, May 12, 13, and 21, 1930; one in the museum of the Department of Conservation at New Orleans was obtained at Grand Isle, April 27, 1936, by Ambrose Daigre; and another in the Biological Survey collection of the United States National Museum was collected at New Orleans, July 6, 1935, by T. D. Burleigh. The writer noted this species at Bayou Des Allemands and Raceland, June 23, 1933; at Avery Island, June 21, 1933; and at Caddo Lake, June 18, 1933; and E. R. Kalmbach reported it as seen along Black Bayou in Cameron Parish in early May of 1919. In this last locality, Vernon Bailey observed it on January 11, 1926; and the writer noted it on the Orange-Cameron Land Company's ranch between the club house and the Gulf beach in southwestern Cameron Parish on January 25 and 26, 1928. George H. Lowery, Jr., considered it common at Cameron in June, 1935. The writer recorded it also at Avery Island, December 28, 1932, where on that day it was unusually numerous. E. S. Hopkins found it on the Rainey Wild Life Sanctuary on January 23, 1928. A specimen in the museum of Tulane

University was taken at Bayou La Barre on December 1, 1889; G. A. Hillery collected it at Carlisle, November 2, 1919; and several were obtained by Winston E. Nolan at Johnson Pond on the Pass a Loutre Hunting Preserve in the Mississippi River Delta, December 20, 1932.

AMERICAN COOT

Fulica americana americana Gmelin

The 'poule d'eau', as the American Coot is known in Louisiana, is one of the most widely distributed and numerous of our American water birds. It is also one of the best known, this probably on account of its conspicuous habits and its abundance. In many places it is commonly called 'mud hen' or 'blue peter', the former from its habits and the latter from its general appearance, since its plumage is black and slate color, relieved by a white bill. In habits it is very much like a duck, and is, therefore, often mistaken for real waterfowl. In general habits it is one of the most interesting of our marsh birds.

It lives in almost all kinds of marshy areas, about ponds, streams, and, particularly in the winter and in early and late migration time, in the bays, lagoons, and lakes of the coast regions. It often gathers into enormous flocks, which mass densely on the water or fly in often close formation. The bird is strong on the wing, although it seems to have difficulty in rising from the water. It has a number of loud notes, one of which sounds very much like the syllable 'kruk' or 'kuk', several times repeated.

The food of this bird is of varied character, consisting of the seeds, leaves, roots, and other parts of water plants, such as pondweeds, wild celery, and fox-tail grass. It also eats grain, which it sometimes picks up as does an ordinary barnyard fowl. Other items of its diet are snails, tadpoles, small fishes, worms, insects and their larvae, together with crustaceans, and other small water animals.

The nest is placed amidst the vegetation of a marsh or pond, and is either floating and anchored to the vegetation, or built up from the bottom, and is normally a rather bulky

structure, coarsely, though firmly, constructed of grass, reeds, flags, rushes, and other aquatic plants, with a lining of finer materials of the same sort. The bird lays usually 8 to 12 eggs, but sometimes as many as 22 have been found in a nest. They are buff in color, thickly spotted with dark brown. It requires about three weeks for the young to hatch, and the work is carried on by both male and female. The former is often very attentive to the female. As soon as the young are hatched they are able to swim and dive, but are well taken care of by the parents until they are able fully to shift for themselves. They are mostly black, but varied with feathers of yellow, orange, and red, and their bills are scarlet with black tips, making altogether very brightly colored and conspicuous youngsters.

The Coot, although often disdained by hunters, probably on account of its name 'mud hen', is a legitimate object of sport, since its flesh, when properly cooked, and when the bird has been feeding on vegetable food, is very palatable.

The American Coot is a permanent resident in all of Louisiana, abundant during the winter, particularly in the southern part of the State; rare and local in the summer, and most numerous from October to March. It inhabits the coastal marshes, also the sloughs, lakes, and streams of the interior. It has been reported from Lake Catherine, the Mississippi River Delta, New Iberia, the Rainey Wild Life Sanctuary, and Cameron Parish, north to Lake Providence, Oak Grove in West Carroll Parish, Prairie Mer Rouge, and Bienville Parish in the northwestern corner of the State.

This species was collected southwest of Gueydan by E. R. Kalmbach, June 26, 1925, and seen there on July 1, 1925. The same observer noted it at Chef Menteur on May 23, 1919; and A. K. Fisher reported seeing it on the southeastern side of Lake Pontchartrain on June 19, 1914, when he noted about 20 individuals. J. S. Campbell noted it at Liberty Hill, June 10, 1932; and at Bryceland on July 18, 1933. The writer observed it at Shreveport on June 18, 1933.

A specimen in the United States National Museum was taken in New Orleans, November 26, 1882. Eugene M. Boring reported the species common at Lake Catherine, November 20 and December 16, 1932. The writer saw about 250 of these birds near the Delta Duck Club, and a few on Main Pass in the Mississippi River Delta on January 19, 1928. There were about 1800 individuals of this species present at Avery Island, December 28, 1932; and small numbers were seen at Avoca Island on the same day, and at Grand Chenier, December 30, 1932. It was noted also at Mud Lake, near Bayou Des Allemands, December 24, 1932; and 700 individuals were seen at Mud Lake on the Orange-Cameron Land Company's property in southwestern Cameron Parish, January 26, 1928. Arthur Svihla observed many birds at Leedyburg, southwestern Cameron Parish, January 1, 1926; and J. S. Campbell, 12 at Oak Grove, West Carroll Parish, December 23, 1934. It was collected in Avoyelles Parish by A. A. Rabalais on February 1 and October 14, 1912; ten miles north of Morgan City, October 18, 1925, by Arthur Svihla; at Grand Isle, April 13, 1937, by Ambrose Daigre; and at Chenier au Tigre on January 13, 1928, by Wharton Huber.

Order CHARADRIIFORMES

Family HAEMATOPODIDAE

AMERICAN OYSTERCATCHER

Haematopus palliatus palliatus Temminck

This shorebird is one of the larger and shyest of all our waders. It is a conspicuous bird, dressed in black and white, with a long bright red bill.

It inhabits almost exclusively the coastal beaches, and is rarely ever found elsewhere, except at times in the adjoining marshes. Its name is derived from its fondness for oysters, which it is able to open with its powerful bill. It apparently does not often gather into flocks of any size, but the birds are seen scattered along the shore. It is, however, in most regions not a common bird, and is found chief-

ly in the southern states. It runs rapidly along the ground and is fond of wading in the shallow water. It has also a strong and rapid flight and seems to swim and dive with ease. Its notes are rather loud and sharp, but the bird is not especially noisy.

It lives on various kinds of mollusks, such as oysters and other bivalves, shrimps, crabs, sea urchins, insects, other similar water animals, and occasionally small fishes. This food it obtains by wading in the water or ranging along the beach.

This bird places its nest on the sandy beaches, beyond reach of the tides. The nest itself is a depression in the sand, sometimes without lining, sometimes lined with pieces of shells or small pebbles. The usually two or three eggs are olive buff, spotted and blotched with brown, black, and drab. When the young are hatched they soon run about and follow their parents, who care for them very solicitously. Whenever they are menaced by an enemy the old birds attempt to distract attention from their family, though usually remaining at a safe distance.

The American Oystercatcher is a rare permanent resident on the beaches and islands of the Gulf Coast of Louisiana, from the Chandeleur Islands, Freemason Island, and Isle au Pitre, west to Isle Derniere, but is more frequently observed east of the Mississippi River Delta; and it was formerly apparently much more numerous than at the present time. It breeds from April to June, and there are records of eggs from April 28 to June 3.

A specimen in the museum of the State Department of Conservation at New Orleans was taken by E. S. Hopkins at Grassy Island in Lake Borgne, July 10, 1926. E. R. Kalmbach obtained specimens on the Shell Keys, Saint Bernard Parish, June 8, 1919; and E. G. Wright on the North Islands, June 11, 1930. Nests with eggs were reported from Freemason Island on May 16, 1913, by W. M. Sprinkle. The writer saw several birds and found one nest containing three eggs on Isle au Pitre, June 3, 1933. The species was ob-

served by him also on Errol Island, June 5, 1933, and on the southern part of Chandeleur Island on the same date.

Specimens were collected by A. M. Bailey at Grand Pass, on June 8, 1919, on Mississippi Sound, March 26, 1917, and Chandeleur Island, June 6, 1918; and by J. J. Audubon at Isle Derniere in March, 1837.

Family CHARADRIIDAE

EASTERN PIPING PLOVER

Charadrius melodus melodus Ord.

The Eastern Piping Plover is a rare, perhaps only casual visitor to the coast region of Louisiana.

There are but two records for the State, both of them females collected by Thomas D. Burleigh; one at New Orleans, September 1, 1935, and the other at Grand Isle, September 17, 1935.

BELTED PIPING PLOVER

Charadrius melodus circumcinctus (Ridgway)

The Belted Piping Plover is a rare, sometimes locally common, spring and fall transient, from October to March 12, casually until the middle of June, on the beaches and islands of the coast of the Gulf of Mexico from Lake Borgne to Cameron Parish; and at least a casual winter resident in the delta of the Mississippi River.

George E. Beyer reported a specimen taken on Lake Pontchartrain in October, 1893; and the species has also been recorded from Isle Derniere and East Timbalier Island in June.* T. Gilbert Pearson considered it not uncommon on the Rainey Wild Life Sanctuary in 1928. A specimen collected at Calcasieu Pass in the spring of 1854 by G. Würdemann was sent by him to the Smithsonian Institution. Another in the museum of the Louisiana Department of Conservation at New Orleans was taken by E. S. Hopkins at Grand Isle on March 12, 1926.

*Beyer, Allison, and Kopman, The Auk, Vol. XXV, No. 2, April, 1908, p. 180.

Apparently the only winter record for the State is from the Delta Duck Club on Octave Pass in the Mississippi River Delta, where two individuals were observed by the writer on January 22, 1932.

The Belted Piping Plover was many years ago described by Robert Ridgway,⁸⁸ who took as his type a specimen obtained on the Loup Fork of the Platte River in Nebraska. It has in recent years been considered inseparable from the eastern bird. A comparison of available material seems now to indicate that it is, however, a rather easily recognizable race. The chief difficulty heretofore seems to have been the fact that both the forms occur on the Atlantic coast during migration, which obscured their geographic distribution. The Belted Piping Plover differs from the Atlantic coast bird in its broader, often continuously black jugular band, this in typical *Charadrius melodus* being narrower and usually either interrupted in the middle of the jugulum, or mixed with white. There appears to be no difference in size between the two races.

The breeding range of *Charadrius melodus circumcinctus* extends north to southern Canada, west to Nebraska, south to Illinois, and east to the Gulf of St. Lawrence. The bird migrates along the Atlantic Coast, and winters along the coast of the Gulf of Mexico from Alabama to Texas.

CUBAN SNOWY PLOVER

Charadrius alexandrinus tenuirostris (Lawrence)⁸⁹

The Cuban Snowy Plover is a rare transient in Louisiana, observed in August and from March to April, on the beaches of the coast and its inlets and on neighboring islands.

A specimen in the museum of Tulane University was taken at New Orleans, August 5, 1886, by Gustave Kohn. Specimens in the museum of the Louisiana Department of Conservation at New Orleans were taken at Grand Isle on

⁸⁸*Aegialitis melodus* var. *circumcinctus*, American Naturalist, Vol. VIII, No. 2, February, 1874, p. 109.

⁸⁹This is *Charadrius nivosus tenuirostris* of the 1931 edition of the A. O. U. Check-List.

March 21, 1931, and April 8, 1928; and also in "Louisiana", without more definite data. Ambrose Daigre observed two individuals at Grand Isle on April 2, 1937.

American specimens of the snowy plover clearly show intergradation with the Old World species, *Charadrius alexandrinus*; and the technical name of our bird, the Cuban Snowy Plover, should consequently be changed, as above indicated, to *Charadrius alexandrinus tenuirostris*.

SEMIPALMATED PLOVER

Charadrius semipalmatus Bonaparte

Among the shorebirds that throng the beaches and the mud flats along the coast and elsewhere, the small plovers are noted for their trimness of build and their rapidity and dignity of movement. Among these the Semipalmated Plover, a rather small bird with dark brown upper parts, and white under surface, with a broad black collar on the foreneck, is conspicuous. It may be found along the beaches and islands of the coasts and also the mud flats and the margins of marshes and streams. It flies swiftly and usually in small companies, sometimes in considerable flocks, and has a plaintive mellow whistle, something like 'cheep' or 'tsoo-eep'. This bird flies either high or often low over the water. On the beaches it runs rapidly and strikes a pose, with heads up, as if expecting admiration, but all the time it is keenly observant of everything that goes on about it, watching not only for danger, but also for its breakfast or dinner, as the case may be.

It frequently associates with various kinds of sandpipers, but when a flock alights on the shore the birds spread out and each individual seems to be searching food for itself. This consists of various kinds of worms, small mollusks, crustaceans, and insects such as mosquito larvae and locusts. Sometimes it visits even plowed fields in search of insects and seeds.

This plover nests in the north at places along the shore on some gravelly or sandy beach. The nest is merely a de-

pression without lining, or at most with a few straws or pieces of grass and moss, or seaweed. The usually four eggs are light brown or buff, spotted and blotched with various shades of brown and drab. Like the young of most shorebirds they leave the nest soon after they are hatched, and run about swiftly, following their parents until they are grown.

The Semipalmated Plover is a fairly common transient, in spring from March 22 to June 10, possibly all summer, and in autumn from July 16 until November, on the beaches and also along the more inland waters of southern Louisiana; from Chandeleur Island and Lobdell in West Baton Rouge Parish, to Avery Island, Gueydan, and probably throughout the coast region; also in the northern part of the State, from Lake Providence in East Carroll Parish to Monroe. There appears to be no authentic winter record, although the species has been several times said to pass this season in Louisiana.

Two specimens examined in the museum of Tulane University were taken at New Orleans, April 25, 1864; others in the Chicago Academy of Sciences were collected by E. G. Wright at Chenier au Tigre, May 25, 1930; at Avery Island, May 10 and 12, 1930; by E. V. Komarek at Grand Gosier Island on June 10, 1930; and one in the Biological Survey collection by T. D. Burleigh at New Orleans, May 31, 1935. At Caernovan near Poydras the species was noted by H. H. Kopman, April 16 to 18, 1918; and Andrew Allison reported the species at Lobdell on May 15, 1903. The writer observed a single individual on Isle au Pitre on June 3, 1933, and two individuals on Chandeleur Island, June 4, 1933. One specimen in the museum of Tulane University was taken at Grand Isle on September 7, 1900; and others in the museum of the Louisiana Department of Conservation at New Orleans were collected at Grand Isle on March 22, 1928, March 26, 1931, and April 26, 1929. S. Ward collected a single bird at Grand Isle, July 16, 1937. A. M. Bailey reported a few seen between May 10 and May 15, 1930, at Avery Island; and E. R. Kalmbach saw several in a rice field south

of Gueydan on May 1, 1925. George H. Lowery, Jr., observed several at Lake Providence on April 23, 1932; and noted the species at Monroe, May 8, 1932.

WILSON PLOVER

Pagolla wilsonia wilsonia (Ord)

The Wilson Plover, a bird somewhat larger and with a longer and heavier bill than the Semipalmated Plover, closely resembles it in color.

It is an inhabitant of the beaches of the coast, where it occurs, however, only as far north as the United States, even in summer. It has characteristic plover habits and attitudes, and is the common breeding plover of the United States coast of the Gulf of Mexico.

Its food, which is sought in its ordinary habitat, is made up chiefly of small mollusks, aquatic insects, worms, crabs, and shrimps.

It nests sometimes in scattered colonies, but more frequently singly along the beaches and islands of the coast, usually above the reach of the tides, on the sandy, gravelly, or shell-covered parts of the strand. The nest is on the ground and usually either hidden or protected by bits of stone or shells or by low vegetation. This home is merely a shallow hole in the sand without lining or at most with small pieces of broken shells. The usually three eggs are buff, irregularly marked with dark brown or black, and drab. Somewhat more than three weeks are required for the hatching of the young, and both parents aid in their care. Like so many other shorebirds they are very solicitous for the young on the approach of any intruder. So much like the strand on which they live are the young that they are easily hidden simply by crouching down, which they do whenever they hear the alarm note of their parents.

The Wilson Plover is a permanent resident on the coast beaches and islands of the Gulf of Mexico in Louisiana, from Chandeleur Island to Cameron Parish; rare in winter, fairly common in summer, and somewhat more numerous

during the migrations in April and from July to August. It seems not to occur inland. It breeds throughout its range in Louisiana from March to June, and there is record of eggs on April 1.

E. R. Kalmbach reported this plover of frequent occurrence on Errol Island from June 4 to 6, 1919, and obtained a single individual on June 6, 1919. The writer noted this species on the Chandeleur Islands on June 4, 1933; on Grand Gosier Island on the following day; on Timbalier Island on June 9, 1933; and E. R. Kalmbach found several pairs on June 17 and 18, 1925, at the mouth of the Mermentau River, at which locality it was doubtless breeding.

Specimens seen in the museum of the Louisiana Department of Conservation at New Orleans were collected at Grand Isle on March 26, 1931, March 28, 1931, April 2, 1928, April 4, 1931, and April 5, 1926. A specimen sent to the United States National Museum from Cameron Parish was taken on March 19, 1878; and one in the Biological Survey was collected by Arthur Svihla at Leedyburg in southwestern Cameron Parish in April, 1926. Others were obtained by E. V. Komarek on Breton Island, June 10, 1930; by E. G. Wright at Chenier au Tigre, May 23, 1930; and by A. M. Bailey on May 11, 1918; by the last collector at Chandeleur Island, June 6 and 7, 1918; and by S. Ward at Grand Terre, June 8 and July 16, 1937.

Although the species is commonly accredited as a winter resident in Louisiana, the only definite record for the State at this season is a single specimen taken by Winston E. Nolan at Grand Isle on December 12, 1931.

KILLDEER

Oxyechus vociferus vociferus (Linnaeus)

Perhaps no shorebird is so well known and so widely distributed as is the familiar Killdeer. Its note is excellently represented by the syllables of its name, although it has also other interesting calls. It is a bird about the size and

color of the Wilson Plover, but with two black bands across the breast instead of one, and with an orange brown area at the base of its rather long tail.

It lives not only along the beaches and the edges of the marshes, but along shores of streams, lakes, ponds, and sloughs, and the like, even on the desert, as well as in other parts of the interior. It has a strong flight that somewhat resembles that of the Yellowlegs, and it moves sometimes in considerable flocks. It runs swiftly over the ground and has the plover-like attitude whenever it poses. It is not so shy as many of our shorebirds, and frequently visits dry fields, plowed lands, and even the grassy uplands, a long distance from water, although damp meadows are more to its liking. The nuptial evolutions are of considerable interest, and are performed mostly in the air by a succession of high flights, which are on occasion long sustained. Sometimes the bird descends from a great height with almost incredible rapidity, only to repeat the former evolutions.

The Killdeer is one of our most beneficial birds, since on account of its habit of visiting cultivated fields it is able to pick up many injurious insects. In fact, a large part of its food consists of bugs, caterpillars, grasshoppers, flies of various kinds, together with spiders, centipedes, ticks, snails, crawfishes, and various other crustaceans. The small amount of vegetable matter that enters into its diet consists of the seeds of various weeds. Some idea of the value of this bird to the farmer may be gained from the fact that it consumes such destructive insects as the alfalfa weevil, the cotton-boll weevil, and other insects of this kind that infest our crops.

The nest is placed often in a field or other cultivated land, either near the water, or even at a considerable distance from any permanent lake, pond, or stream. It is usually in an open situation, such as a field, pasture, or gravelly strand, where the eggs, unprotected by vegetation, are almost perfectly hidden by their coloration. The bird is wary at the nest, and the nest is often with difficulty discovered at all. It is merely a depression in the ground, in many in-

stances unlined, but at most with bits of rubbish, small pieces of twigs, weeds, grasses, pebbles, or shells, as a lining. The eggs are nearly always four, buff or cream color, spotted and blotched with dark brown or black. Incubation requires about three and one-half weeks, and both birds not only assist in this, but help to take care of the young as soon as they are hatched. The young follow their parents as soon as they are dry, and quickly learn to hide themselves at the first sign of danger.

The Killdeer is a permanent resident, fairly common locally in summer, and abundant and generally distributed during the winter from October to March, over all of Louisiana from the Mississippi River Delta, Chenier au Tigre, the Rainey Wild Life Sanctuary, and Cameron Parish; reported north to Lake Providence, Oak Grove in West Carroll Parish, Mer Rouge, Monroe, Bienville, and Caddo Parish. It breeds from March to June, and there are records of eggs from March 28 to June 6; and of young as early as April 10.

Eggs in the United States National Museum were collected at Grand Coteau in Saint Landry Parish on June 6, 1887. J. S. Campbell discovered nests near Bienville in March, 1932, March 28, 1933, and others in March and April, 1933, from one of which came young by April 10. The writer has observed the species at the following localities: Delta Duck Club on Octave Pass in the Mississippi River Delta, January 22, 1932; at Jennings, Crowley, and Vinton on June 20, 1933; and on the beach of the Gulf of Mexico near Mud Lake in southwestern Cameron Parish, where it was common on January 26, 1928; also at Natchitoches on June 19, 1933; and at Rayville, June 17, 1933. Vernon Bailey found it common and breeding at Mer Rouge, June 7, 1892.

AMERICAN GOLDEN PLOVER

Pluvialis dominica dominica (Müller)

This beautiful plover, which is well named 'golden', on account of the numerous yellow spots on its back, is the American representative of its well known European name-

sake. It is a rather large plover, of about the size of the Black-bellied Plover, and has, like it, in breeding plumage, black under parts, but its conspicuous yellow spotting on the upper surface, and lack of the white patch at the base of the tail, will readily distinguish it from that bird.

It has even a more extensive migration route than the Black-bellied Plover, breeding in the far north of our continent, and passing southward along the Atlantic Coast to Patagonia. Returning, most of the individuals pass in general up through the middle of the North American continent. Its great migration flight across the western part of the Atlantic Ocean, from Nova Scotia to the West Indies, on its way to South America, has long excited the interest and admiration of the students of bird migration. It rarely appears, in any considerable numbers, along the Atlantic Coast, except during periods of severe weather. It is, however, unfortunately, one of the birds that has been much reduced in numbers in recent years. It is swift of flight and often gathers into flocks of considerable size, which, unlike the Black-bellied Plover, seem rather to prefer the drier parts of the flats and sandy uplands, or almost any area not covered with tall vegetation. The flocks, particularly about their breeding grounds, execute many remarkable maneuvers, as do some other shorebirds, in perfect concert, as if they formed a winged army. On the migration flights they travel not unusually in long lines and in flocks of various other shapes. On the ground the bird runs much like the Black-bellied Plover, with head up and with a very distinguished bearing; and when it alights it often raises the wings high over the back before folding them into place. The bird is rather less wary than the Black-bellied Plover, and is easily decoyed by imitation of its note, which is a mellow whistle. This note, during the breeding season, by its successive repetition and variations, forms what almost might be termed a real song.

The food of this bird, sought both along the shore and on the upland, consists of crickets, grasshoppers, locusts,

cutworms, wireworms, and other similar insects, together with berries and other vegetable food.

The nest of the American Golden Plover, like that of most waders, is a rather slight affair, being merely a depression in the ground, lined with a few leaves and other vegetation. The four eggs are buffy olive or olive buff, spotted numerously, chiefly on the larger end, with black and dark brown. Only one brood is reared, and the incubation period is something like 27 days. Apparently both male and female take part in incubating the eggs. The downy young are beautiful creatures, like the young of most other shorebirds, and are dull buff above, much marked with black.

The American Golden Plover is a transient visitor in Louisiana, from March 16 to June 10, and from September to November 2, formerly very abundant, now rare, and more frequently observed in the spring. It occurs throughout the State, although it is most common in the Gulf Coast region, north to New Orleans and West Baton Rouge Parish.

Specimens in the museum of Tulane University were collected at Spanish Lookout on Grand Pass in Plaquemines Parish, March 29, 1894; and at New Orleans, November 1, 1874, November 2, 1873, March 18 and 19, 1889, and March 31, 1886. Andrew Allison reports its presence at New Orleans on March 24 and 29, and April 7, 1894. A specimen in the museum of the Louisiana Department of Conservation at New Orleans was collected at Grand Isle on April 12, 1930. One was sent to the Smithsonian Institution by J. Fairie from Prairie Mer Rouge in 1853. E. R. Kalmbach also obtained a single individual on May 1, 1925, at Gueydan.

BLACK-BELLIED PLOVER

Squatarola squatarola squatarola (Linnaeus)^{oo}

The Black-bellied Plover, so called from the fact that most of its under parts are black, may readily be distinguished by its mostly black and white upper surface, and the

^{oo}*Squatarola squatarola* of the 1931 edition of the A. O. U. Check-List.



WILSON PLOVER (*Pagolla wilsonia wilsonia*), NEST, AND EGGS.
Merritt Island, Fla., May 17, 1934.
(Photograph by A. M. Bailey and F. R. Dickinson.)



KILLDEER (*Oryzopsis vociferus vociferus*).
La Grange, Ill., June 10, 1928.
(Photograph by A. M. Bailey.)

white patch at the base of the tail. In the autumn, however, it loses this distinctive plumage and becomes gray and white, very much like the American Golden Plover.

This is one of the larger and best known shorebirds, and for a long time was a main object of sport, although now entirely protected by law. It is found not only in North America, but in the Old World as well, and is one of the birds that, breeding in the Arctic regions, migrate as far as South America for the winter; but many Black-bellied Plovers pass the winter in the southern United States. Although it is most abundant along the seacoasts it is found in considerable numbers also in the interior of North America.

Some of the other names by which this bird is known are 'bullhead', 'beetle head', and 'whistling plover'. It is a more or less gregarious bird, and is found not only with its own kind, but often associated with other shorebirds, such as American Golden Plovers, Turnstones, and Knots. At times, however, it gathers into flocks of considerable size, which, on the wing, are either in loose companies, or in long lines, much like ducks. It resorts to the extensive sand or mud flats along the shores, but it also frequents the oozy margins of the marshes, as well as the grassy or sandy uplands. Its rather plaintive call is characteristic. On the ground it runs like all other plovers, and its size and other characteristics are ready means of identification. Some observers have reported that it turns over in the air like the tumbler pigeon, apparently in play, and it is one of the birds that is often active long after dark. Whether on the wing or patrolling the sand flats, this bird is ever on the alert.

The food of this bird consists of insects, chiefly those that frequent the water, together with worms, various kinds of grubs, and crustaceans. Along the shore the bird runs about seeking its food either on the sand or in shallow water. When it feeds on the uplands it subsists sometimes to a considerable extent on berries.

The nest consists of a small quantity of grass and leaves, which are virtually a lining for the depression of the ground in which the nest is situated. The eggs are usually four, greenish or ochraceous drab, with markings of dark brown. The young like those of sandpipers are able to run about as soon as hatched, although for some time cared for by the parents.

The Black-bellied Plover is a fairly common permanent resident, rare in summer, and of most frequent occurrence from September to April, in the Gulf Coast region of southern Louisiana, chiefly on the beaches and islands, from Chandeleur Island to Grand Isle and Cameron Parish, but also inland to Sabine Station in southwestern Calcasieu Parish, Crowley, and Mermentau. Although individuals of this species remain along the Gulf Coast of Louisiana throughout the summer, the bird does not breed in the State. It is apparently not recorded from northern Louisiana.

The writer observed this species on Isle au Pitre, June 3, 1933; on Brush Island, St. Bernard Parish, June 4, 1933; on Grand Gosier Island, June 5 and 6, 1933; and near the mouth of Grand Caillou Bayou, Terrebonne Parish, June 22, 1933. W. M. Sprinkle reported it abundant on Old Harbor Key on January 14, 1911; and Arthur Svihla noted several individuals at Leedyburg in southwestern Cameron Parish, January 3, 1926. The writer found it fairly common in the Mississippi River Delta on Octave Pass and Main Pass, December 19, 1932; on Codro Pass and Dead Woman Pass, December 18, 1932; and along Willow Pass on December 20, 1932.

Specimens in the museum of the Louisiana Department of Conservation at New Orleans were taken at Grand Isle on the following dates: March 22, 1931, April 8, 1929, April 17, 1933, May 7 and 8, 1933, May 10, 1933, and May 26, 1931. A single specimen in the museum of Tulane University was collected at the same locality on September 10, 1900; and two others in the Louisiana State University were shot by George H. Lowery, Jr., on October 27, 1935. Still others were obtained by E. S. Hopkins in Cameron Parish,

February 20, 1928; by E. V. Komarek at Grace Point, June 9 and 10, 1930; at Grand Gosier Island, June 9, 1930; and by A. M. Bailey at Breton Island, June 10, 1930. The writer observed 30 of these birds on the Rainey Wild Life Sanctuary, near Abbeville, January 23, 1928; several near the Orange-Cameron Land Company's club house in southwestern Cameron Parish, January 24, 1928; and near Mud Lake in the same region, January 26, 1928. A few birds were seen on the beach near Johnson Bayou in southern Cameron Parish, January 6 to 13, 1926, by Vernon Bailey. Specimens in the museum of Tulane University were taken at Rayne, December 2, 1890, and Sabine Station in Calcasieu Parish, January 30, 1888. Two were obtained by W. A. Douglas six miles north of Crowley, May 3, 1933; and the species was reported by Chas. A. Bibbins at Mermentau, March 18, April 1, and May 2, 1887. Individuals were collected by A. M. Bailey at Chenier au Tigre on December 12, 1925; at Karoco Pass, March 25, 1917, and Fermen Bayou in Vermilion Parish, November 18, 1916.

RUDDY TURNSTONE

Arenaria interpres morinella (Linnaeus)

The well known and widely distributed 'calico back', as this bird is frequently called, from the variegated colors of its plumage, is one of the most attractive inhabitants of the shores of the coast. It is a bird of about the size of the larger plovers, but with shorter legs, in full plumage with black, white, and tawny upper surface, largely white head and under parts, and with a broad black band or crescent across the breast. The bright orange red feet likewise are conspicuous at more or less close range.

The Ruddy Turnstone breeds in the far north and migrates southward for the winter as far as South America. While it is apparently most fond of the shores of the coast, it is found also at times in considerable numbers along the streams, ponds, lakes, and sloughs of the interior. While commonly observed singly or in small pairs, it often assembles into flocks of large size, which are either composed

wholly of this bird or are associated with other shorebirds, particularly the Black-bellied Plover. Its flight is strong and swift and often long sustained. On the shore it runs about over the sand or rocks with agility, at times uttering its weak alarm note, or its loud, rather melodious two-syllabled whistle.

Its food is gleaned mostly from the edge of the shore, and the beaches, and its name 'turnstone' is derived from its habit of turning over with its bill the stones, shells, and other objects, in search of its food. This consists of small mussels and other mollusks, crabs and other crustaceans, insects and their larvae, small fishes, and a limited amount of vegetable food such as berries and other parts of plants.

The nest is a shallow depression in the moss of the northern tundra, and is lined with a few stems of mosses, leaves, or grasses; situated occasionally on a bare, flat rock or similar place, often in an open place with scarcely any concealment. The four eggs are olive buff, boldly marked with dark brown and drab. The parents are very solicitous and are active in the defense of the home, since the jaegers and other marauders of the north are only too ready to pilfer an unprotected nest. As would be expected, both of the parent birds aid in taking care of the young, as well as in incubating the eggs.

The Ruddy Turnstone is a fairly common permanent resident on the many beaches and islands along the coast of the Gulf of Mexico in southern Louisiana, from the Chandeleur Islands and Isle au Pitre to the Mississippi River Delta and the Sabine River; it is most frequent during the periods of migration, and least so during the winter. It regularly remains throughout the summer along the coast of Louisiana, but it does not breed there.

Several were seen on Isle au Pitre by the writer, June 3, 1933; on Brush Island and the Chandeleur Islands on the following day; on Stake Island and Curlew Island, June 5, 1933; and on Grand Gosier Island, and on Bird Island southwest of Breton Island, June 6, 1933. E. R. Kalmbach re-

ported it on the Mud Lumps at the mouth of Pass a Loutre, June 2 and 3, 1919, and on the Gulf beach at the mouth of the Mermentau River, August 12, 1925. The writer found it on Shell Island, Plaquemines Parish, June 8, 1933. A specimen in the museum of the Louisiana Department of Conservation at New Orleans was obtained at Grand Isle on June 1, 1913; and another in the museum of Tulane University was taken at the same locality on September 9, 1900. A specimen collected by G. Würdemann at Calcasieu Pass in the spring of 1854 was sent to the Smithsonian Institution. Others, in the Chicago Academy of Sciences, were gathered at Chenier au Tigre, May 23 and 25, 1930, by E. G. Wright; and at Grand Gosier Island, June 10, 1930, by E. V. Komarek. A. M. Bailey reported it at Chenier au Tigre, December 8 to 18, 1925; and the writer observed it on the Rainey Wild Life Sanctuary, near Abbeville, January 23, 1928; also at Chateau Canard on Joseph Leiter's property on Main Pass in the Mississippi River Delta, December 19, 1932. A. M. Bailey collected this shorebird on Battledore Island, August 4, 1917; and G. K. Cherrie at Buras on January 31, 1896.

Family SCOLOPACIDAE

AMERICAN WOODCOCK

Rubicola minor (Gmelin)"

This is a famous game bird, and one that is well known to most sportsmen of the eastern United States. It is one of the larger shorebirds, dark brown above with a broadly barred head, eyes set far back on the sides of the head, long bill, and light brown under parts.

It lives in dense thickets, particularly about the edges of marshes, lakes, and streams, and is one of the most retiring of our shorebirds. In fact it is often difficult to find even by careful search. Sometimes it frequents moist woodlands or even open grassy meadows. It rarely assembles into flocks, although sometimes during the migra-

**Philohela minor* of the 1931 edition of the A. O. U. Check-List.

tion season there are large flights of this bird which fill the woods and thickets for at least a few days. In its ordinary life it spends little of its time on the wing, but remains in the seclusion of the thickets that it loves. When flushed it flies swiftly and erratically upward, but soon pitches down into concealment again. That it is capable, however, of long, well-sustained flight is evident from its long migration journeys, since it spends the winter mostly in the southern United States, even though it occurs in summer as far north as southern Canada. It has a number of peculiar notes, some of which are undoubtedly produced by the wings instead of the throat.

It seeks its food mostly at night in boggy places, by probing with its bill in the soft ground, and these bill holes are good evidence of its presence. It is fond of earthworms, grubs, and slugs, of which its food consists in considerable amount, but it eats also beetles and other insects such as ants and grasshoppers.

The courtship flight of the Woodcock is so spectacular a performance that it has long attracted the attention of naturalists and others. It is performed at twilight in some rather open space, such as a clearing near the edge of the woods, and is preceded by the strutting of the bird and the utterance of a loud, rather harsh note. Then the bird ascends in spirals, sometimes as high as 300 feet, continually uttering his twittering notes, changing to a more musical sound as the bird flutters down to earth again.

The nest of this famous bird is placed in the woods or in thickets, in pastures, or in tall weeds, and is an inconsequential structure made of leaves. So completely protected by its coloration is the bird that when sitting on the nest it is almost impossible to pick out among the foliage, dead leaves, and other vegetation on the ground. The usually four eggs are buff, with small spots of brown and drab. When the young are hatched, which requires about three weeks, and is aided by both male and female, the young are taken care of for a short time at the nest, but as soon as they are able to walk they run about and are carefully

watched over by their parents. At times, when the birds feel that a certain place is not safe for their offspring, they will carry the young elsewhere.

The Woodcock in all its range west of the Allegheny Mountains seems to be decreasing in numbers, and if the bird is to be permanently preserved it should have careful protection, particularly on its wintering grounds.

The American Woodcock is a permanent resident in practically all of Louisiana, excepting the coastal marshes and islands, wherever suitable thickets abound, from Grand Isle, Avery Island, and Cameron Parish, north to Lake Providence, Mer Rouge, Monroe, and Bienville; rather local and rare in summer, abundant in winter in parts of southeastern Louisiana, but not so numerous elsewhere. It breeds very locally from January to April.

Specimens of this bird in the museum of Tulane University were collected at Avery Island, January 7, 1894; at Mandeville, December 23, 1873; and Independence, January 1, 1894; and one in the museum of the Louisiana Department of Conservation at New Orleans was obtained at Grand Isle on April 17, 1929. J. S. Campbell took a female at Bienville, February 19, 1934, which contained a fully developed egg; and another bird on May 5, 1934. Robert Butler reported it as a winter resident at Bains from December 4 to February 10, 1929. Vernon Bailey reported three killed on the marshes south of Iowa (La.), during the winter of 1898 to 1899, but apparently the species is not common in that vicinity. Ned Hollister found it at Mer Rouge between February 11 and 16, 1904; George H. Lowery, Jr., noted it at Monroe, June 9 and 19, 1930, and as fairly common at Lake Providence in East Carroll Parish; and E. R. Kalmbach reported it on July 10, 1924, near Tallulah. Ambrose Daigre considers it rare but nesting at Alexandria; and George E. Beyer found a young bird but a few days old near Covington, January 29, 1890, showing that the species breeds very early in the year. This favorite game bird is almost unbelievably numerous in some of the country along the Mississippi River in the southeastern part

of Louisiana, particularly in the parishes of East Feliciana, West Feliciana, East Baton Rouge, West Baton Rouge, Livingston, Iberville, and Pointe Coupee.

The generic name *Rubicola*, which was proposed by Richardson²² for the American Woodcock, *Scolopax minor* Gmelin, should be reinstated as the generic designation for this species, since this name is clearly tenable because there is no clear evidence that it was proposed by a slip of the pen or by a typographical error, and there seems to be no other reason for its rejection.

WILSON SNIPE

Capella gallinago delicata (Ord)²³

The Wilson Snipe, or, as it is often called, 'jacksnipe' or 'English snipe', is one of the most widely distributed of our North American shorebirds. Like the American Woodcock, it is a famous game bird, both on account of its abundance and the sport that it provides for those who enjoy shooting a bird that is more or less difficult to bag. Its long bill, black and brown variegated upper parts, and light colored lower surface distinguish it from most of our other shorebirds.

Though it lives in the north during the breeding season it winters mostly south of the middle United States, as far as northern South America. In habits it is different from many of the other shorebirds, and is more like the Woodcock, inhabiting meadows, marshes, and even the higher and drier pastures or the thickets along streams. Its flight is rapid and erratic, for which reason it is often difficult to see, much less to shoot. While it does not ordinarily move in large flocks, it sometimes assembles in certain areas in almost unbelievable numbers, though rarely in compact companies, and commonly it is seen singly or in small companies, called 'wisps'.

This bird more or less resembles the Woodcock in food habits, but it feeds more in the daytime. It probes in the

²² Wilson and Bonaparte, Amer. Ornith., Jameson Edition, Vol. III, 1831, p. 98.

²³*Capella delicata* of the 1931 edition of the A. O. U. Check-List.

mud or soft boggy ground for much of its food, which consists of earthworms, leeches, caterpillars, grasshoppers, locusts, mosquitoes, and other insects and larvae, and the seeds of some marsh plants.

One of the interesting features of this bird's life history is the courtship performance. This is a towering flight of undulating character, accompanied by a peculiar note which is produced by the motion of the air through the feathers of the tail, and has been called the 'bleating of the snipe'. Other parts of the courtship consist of strutting by the male, and spreading the wings and tail, followed by spiral flights into the air, these also producing the peculiar sound above mentioned.

The nest of this bird is placed on the ground in marshy or damp places, often under a bunch of grass or a bush, or in thickets, not far from water. It is on the ground, and is often well-built of grass, lined with finer materials of the same kind, and occasionally it is partly arched over. Sometimes it is in a clump of vegetation over water, but usually not far above it, in such cases fastened securely to the stems of the surrounding vegetation. The four eggs are buff, much spotted with dark brown and drab. Both of the parents assist in the incubation, which requires somewhat less than three weeks. The young are able to move about soon after hatching, and readily conceal themselves in the surrounding vegetation. The parents, however, are exceedingly solicitous for their welfare, and look after them for a considerable period.

The Wilson Snipe is a winter resident, from August 19 to April 30 or early May, casually to June, in all of Louisiana from the Mississippi River Delta, Grand Isle, Chenier au Tigre, and Cameron Parish, reported north to Bienville and Monroe, and probably occurring also to the northern border of the State. It frequents the marshes and the meadows; is common in the winter in southern Louisiana, less numerous in the northern part of the State; and most frequent from October to November and from February to April.

A specimen was taken by A. K. Fisher on Octave Pass in the Mississippi River Delta, February 2, 1911. The species was observed by the writer between Algiers and Empire along the lower part of the Mississippi River in Plaquemines Parish, December 16, 1932; G. A. Hillery collected it at Carlisle in the same region on December 7, 1919; and E. S. Hopkins at Mandeville on February 23, 1925. There are specimens in the museum of Tulane University, obtained at Slidell, December 10, 1899; Madisonville, January 26, 1898; and at New Orleans, November 25, 1865, December 26, 1867, and March 12, 1874. The writer observed it at Lake Salvador on January 26, 1932, and at Lake Barre, December 23, 1932. Specimens were collected at Grand Isle on March 19, 1931, by E. S. Hopkins; and at Morgan City on January 2, 1926, by Arthur Svihla. It was taken also at Belle Isle, March 2, 1910, by W. L. McAtee. There is a specimen in the museum of Tulane University collected at New Iberia on January 22, 1892, and another from Vinton on January 25, 1894. J. S. Campbell flushed a group of 15 at Bienville on March 28, 1933, but the bird is not common in winter at that locality. The writer observed the Wilson Snipe near the Orange-Cameron Land Company's club house in southwestern Cameron Parish on January 27, 1928, and at Calcasieu Lake, on December 31, 1932. It was also reported to him as very abundant at Grand Chenier on December 31, 1932. A single specimen was sent to the Smithsonian Institution by J. Fairie, from Prairie Mer Rouge, taken in June of 1853; and another was taken by George H. Lowery, Jr., at Baton Rouge, on March 24, 1937.

Some idea of the abundance of this snipe may be gathered from the statement that L. J. Merovka saw about 700 individuals on an area of some four square miles, distant seven miles west of Houma, December 30, 1933; and that J. J. Pringle was able to shoot 366 in six hours, on his hunting grounds in Louisiana, December 11, 1877.

LONG-BILLED CURLEW

Numenius americanus americanus Bechstein

Its large size, long, curved bill, together with its cinnamon tinted plumage, and its loud whistling notes that sound very much like the word 'curlew', make this one of the most easily distinguished of our shorebirds. It was formerly very much more abundant than it is today, but there is a possibility that its numbers may now be increased by careful protection. Its former breeding range extended over much of the western United States, but it is now confined to a relatively few areas.

It frequents the lakes, sloughs, ponds, prairies, and moist meadows of the interior, as well as the marshes, bays, and lagoons of the coast region. It is fond of assembling in sometimes great numbers on mud flats, where it wades in the shallow water; or of settling on the open grassy prairies. It is a shy bird, and is difficult to approach, particularly when considerable numbers are together, since their sentinels are quick to warn the flock of the approach of danger. It has a strong flight when once it is well on the wing. At night this species roosts on sandy beaches of the mainland or on islands along the coast in sometimes large numbers and in more or less dense formation.

The food of the Long-billed Curlew consists mostly of various invertebrate animals such as snails, crabs, worms, grasshoppers, beetles, and other insects, and spiders; with at times some berries, obtained from bushes on the upland.

The nesting location of this bird is almost anywhere on the prairies or plains, in damp places or in dry areas. The nest is ordinarily but a depression in the ground, lined with a few weeds or grasses, but occasionally is more elaborate. The four eggs are buff or pale olive, spotted with dark brown and drab. Both parents assist in the incubation, and usually do not readily leave the nest on the approach of anyone. Both nest and young are carefully watched and protected by the adult birds, and the approach of danger is the signal for a great outcry. The young, of

course, run about almost as soon as hatched and follow the parents, which take exceptionally good care of them, since, like all ground-nesting shorebirds, they are subject to the attacks of many enemies.

The Long-billed Curlew was formerly a common, now a rare, winter resident, from December 4 to April 22, in the Gulf Coast region of Louisiana, on the prairies, marshes, and islands, from the Chandeleur Islands to Cameron Parish, but apparently it has not been reported from northern Louisiana. It is casual in summer during June, July, and August, but only along the coast of the Gulf of Mexico.

A specimen of this bird recently examined in the museum of Tulane University at New Orleans, was taken at Sabine Station in southwestern Calcasieu Parish on December 13, 1887, by Gustave Kohn. Other records of this subspecies, which is presumably the common form of the species in Louisiana, particularly during the summer, are given below and refer probably to this race. A. M. Bailey found it during the months of January, March, and April, at Chenier au Tigre; and E. S. Hopkins reported it common at Grand Isle, April 8, 1925, April 22, 1926, and April 7, 1928. At Cameron, W. L. McAtee saw one on December 4, 1910. E. R. Kalmbach noted it along the Mermentau River, west of Grand Chenier, August 12, 1925. Beyer, Allison, and Kopman reported the species at Cameron on July 1; and A. M. Bailey noted a single individual on the Chandeleur Islands, June 7, 1918.

NORTHERN CURLEW

Numenius americanus occidentalis Woodhouse

The Northern Curlew is a rare winter resident, from November 12 to March 26, on the coastal prairies and marshes of southern Louisiana, from Lake Borgne to the Sabine River.

It is not with certainty distinguishable in the field from the Long-billed Curlew, *Numenius americanus americanus* Bechstein, and, therefore, for definite records we are obliged to rely on the specimens examined. The writer has seen the

following specimens of *Numenius americanus occidentalis* from the State. A single individual collected by G. Würdemann at Calcasieu Pass during the spring of 1854 is now in the United States National Museum. Specimens in the museum of Tulane University at New Orleans are from the subjoined localities: Sabine Station in southwestern Calcasieu Parish, December 6, 1891; New Orleans, November 12, 1885; Mandeville, December 17, 1876; and two specimens, male and female, from Lake Borgne, December 5, 1886.

HUDSONIAN CURLEW

Phaeopus hudsonicus (Latham)

In general appearance this bird is very much like the Long-billed Curlew, except for smaller size and a much shorter bill. It is a northern species, breeding in the Arctic regions, but for the winter its migration journeys extend across the United States and as far south as Chile.

It inhabits the plains, prairies, also open fields, particularly where there are ponds, sloughs, and lakes, and likewise the beaches, lagoons, and flats of the coastal regions. It gathers into enormous numbers along the coasts at times during migration, although it moves much in rather small companies. The bird flies at times swiftly, but in ordinary migration with only moderate speed and often high above the ground. Along the shore it stands or walks, either in the water or on the sand or mud, and it does not appear as active as many of the other shorebirds. Notwithstanding this, the bird is shy and is easily alarmed, particularly when the posted sentinels of a flock give the alarm. The common note of this bird is a whistle of several syllables, which bears some resemblance to the call of the Yellowlegs.

This curlew feeds along the shore, on the beaches and flats in the marshes, in pastures, or on meadows and prairies. In these places it picks up the various small animals, such as crustaceans, mollusks, worms, spiders, and different kinds of insects, on which it chiefly subsists. At times it eats also quantities of berries, such as crowberries, dewberries, and blueberries.

The nest of this bird is to be found on the tundra of the north. It is situated on the ground, and for safety the bird depends on the protective coloration of the eggs. The nest itself is merely a depression in the grass or moss, or, if on the ground, it is composed of grasses and the lichens that are called moss in the Arctic regions. The eggs are usually four, pyriform, similar to those of most shorebirds, and pale green or buff in ground color, numerous marked with shades of brown and drab. The adults watch the nest carefully, and likewise take good care of the young birds.

The Hudsonian Curlew was formerly a fairly common, but is now a rather rare permanent resident on the islands, marshes, and prairies near the coast of the Gulf of Mexico in southern Louisiana, from Chandeleur Island to Sabine Pass. It is of most frequent occurrence from March to May and from September to November, and is only casual in both winter and summer.

During the winter it has been observed only in the Mississippi River Delta, where the writer saw two individuals at Chateau Canard, Joseph Leiter's property on Main Pass on December 19, 1932.

In summer it has been reported chiefly in June and July; and has been observed on the northern coasts of the Freemason Islands on July 28.* A. M. Bailey noted several individuals at Chenier au Tigre, between May 22 and May 27, 1930, these, however, apparently belated migrants. He obtained specimens there on April 11, 1919, and May 10, 1918; and E. G. Wright, on May 27, 1930.

Specimens in the museum of the Louisiana Department of Conservation at New Orleans were obtained at Grand Isle, April 28, 1933; and at the same locality by E. S. Hopkins on March 31, 1931, and April 26, 1926; and by Ambrose Daigre on April 27, 1936. There is also a specimen in the State Department of Agriculture collection in the State Capitol at

*Bull. La. Dept. Cons., No. 20, December 1931, pp. 270-271.

Baton Rouge, taken by Winston E. Nolan at Grand Isle, April 25, 1933. A. M. Bailey collected one at Elephant Pass on May 17, 1917.

ESKIMO CURLEW

Phaeopus borealis (Forster)

The Eskimo Curlew was formerly apparently a common spring transient in March and April, and was reported to occur also in the fall. It is now practically extinct everywhere and there are no very recent records of its appearance in the State. It is recorded from only the southern part of Louisiana; and all the specimen records that we have been able to unearth are four birds in the Gustave Kohn collection now in the museum of Tulane University at New Orleans. These are: adult male, taken March 27, 1889, at Rayne; and three others collected at New Orleans—an adult male, March 16, 1889, another of the same sex, March 30, 1881, and an adult female, April 4, 1881. J. J. Audubon reported seeing flocks of Eskimo Curlews on Baratavia Bay from April 5 to 10, 1837.

UPLAND PLOVER

Bartramia longicauda (Bechstein)

The Upland Plover is another bird, the name of which is a misnomer. It is, in fact, not a plover but a sandpiper, and its other common name 'Bartramian Sandpiper' is thus really more appropriate. It is called also 'field plover', and 'quailie'. Few of the shorebirds are better known as game than the Upland Plover, but so assiduously was it for many years hunted that its numbers have alarmingly decreased to a point in fact where rigid protection is its only salvation. It is a bird of about the size of the Greater Yellowlegs, though usually rather smaller and with a shorter bill, more brownish coloration, and more thickly streaked lower parts.

It is fond of pastures, prairies, meadows, and the grassy margins of sloughs, ponds, and lakes, but it is also found in various kinds of cultivated areas and on uplands.

At times it is easily approached; and on the wing, under some circumstances, it is rather slow and easy, although at other times, particularly during migration, it is capable of long flights, since it migrates southward to winter as far away as Argentina. On the ground it runs rapidly, and in general attitude and movements is very much like a plover. Its mellow note is a whistled trill, which is very characteristic. It has other notes and an alarm cry which resembles 'quip-ip-ip-ip'. It is an early migrant, leaving its breeding grounds in July and assembling into flocks ready to start on the southward journey. At times the bird formerly gathered into great companies, although ordinarily in migration it scattered over a considerable area, and did not move in dense masses.

This bird lives to a large extent on grasshoppers, locusts, and various kinds of injurious weevils, such as the cotton-boll weevil and clover-leaf weevil, and on many other injurious insects, such as leaf beetles, wireworms, cutworms, army worms, horse flies, and similar pests. Other items of food are cattle ticks, moths, ants, bugs, spiders, and earthworms. The small amount of vegetable food consists of the seeds of various kinds of grasses. In its food habits this bird is thus a decidedly beneficial species, so far as man is concerned.

It breeds in pastures and grassy lands of various kinds, particularly on the prairies of the west, sometimes on moist ground. The nest is a depression in the earth, lined with bits of grass. The four eggs are pale buff or greenish, spotted with shades of brown and gray. Both parents not only divide the duty of incubation, but are active in the care and protection of the young birds, and in some cases become very bold in attempting to save their young from impending danger.

The Upland Plover was formerly an abundant, now only a fairly common transient, February 28 to May 20, and July 5 to the middle of October, on the prairies and fields throughout most of the State, from Covington, Diamond, Vermilion Parish, and Cameron Parish, to the northern



EASTERN WILLET (*Catoptrophorus semipalmatus semipalmatus*), NEST, AND EGGS.
Merritt Island, Fla., May 17, 1934.
(Photograph by A. M. Bailey and F. R. Dickinson.)

part of the State, although there are few recent records from northern Louisiana. It seems to be most frequent at the present time in the southwestern part.

Specimens in the museum of Tulane University recently examined are from New Orleans, collected on the following dates: March 31, 1889, April 10, 1890, April 5, 1886, April 25, 1864, and May 4, 1890. Two examples obtained by Winston E. Nolan are from Marrero, near New Orleans, taken March 22, 1930; and another in the State Department of Agriculture Museum in the State Capitol at Baton Rouge was collected at Grand Isle on April 25, 1933. Andrew Allison reported the Upland Plover at Lobdell on March 19 and May 15, 1903; H. H. Kopman, at Covington on March 24, 1900; and H. L. Ballowe, March 23 and 25, 1902, and April 1, 1902, at Diamond. E. R. Kalmbach took an example of the species at Gueydan on August 27, 1925, and reported one seen at Cameron Farm, 14 miles south of Vinton, on April 30, 1919. There is also a specimen in the Biological Survey collection in the United States National Museum, taken at Iowa (La.) by Vernon Bailey, April 8, 1899. A single individual was observed by Ambrose Daigre at Grand Isle on April 6 and 18, 1937; one taken by George H. Lowery, Jr., at Baton Rouge, April 1, 1937, and another by S. Ward on March 31, 1937.

SPOTTED SANDPIPER

Actitis macularia (Linnaeus)

Generally speaking, the Spotted Sandpiper is, owing to its wide distribution and familiar habits, one of our best known sandpipers. Its grayish olive brownish coloration above, and its white and dark spotted under parts, render it easily identified.

Its habit of running along the edges of streams, sloughs, marshes, lakes, and other bodies of water, and its swift, strong flight close to the surface of the water make it a conspicuous bird wherever it is found. It is usually not particularly shy, and its note, which sounds very much like the syllables 'peet-weet', has given rise to one of its names.

In addition, the almost continual up and down motion of the hind part of its body gives it a peculiar appearance, and serves also as a ready means of identification among the shorebirds. It is not so gregarious as many of the sandpipers, and is found usually singly or in pairs wherever it lives. It has a long migration route, since it penetrates as far south as Brazil and Bolivia in winter.

The food of this bird is sought in its regular places of abode and also in the upland areas, even in meadows, fields, and gardens, since it frequents most cultivated areas. It lives to a large extent on caterpillars, grasshoppers, beetles, grubs, and various other kinds of insect life. In fact it eats ordinarily little else, although it occasionally takes small fishes.

The home of this bird is situated in grassy areas of various kinds, mostly near water, sometimes also even under rocks or ledges, about lakes and lagoons, often in open pastures or on prairies; and the nest is usually well concealed. Ordinarily the bird nests singly, but occasionally a considerable number of pairs will breed in close proximity. The nest itself is on the ground and is not a very elaborate affair, being composed chiefly of grasses, weeds, and other similar vegetation. The four eggs are buff, with spots or blotches of dark brown and drab. One of the interesting features of the young birds is that almost as soon as they are hatched they run about wagging the tail, much as do the adults.

The Spotted Sandpiper is a rare summer resident, common during the spring and autumn migrations, from March 16 to November 10, throughout most of Louisiana, from Grand Isle to Tallulah, Bienville, and Caddo Parish. It is also a rare winter resident in the southern part of the State, from the Mississippi River Delta, north to the Amite River, and False River in northern West Baton Rouge Parish.

George E. Beyer found it breeding on several of the drainage canals about New Orleans; Robert Butler reports it breeding in West Feliciana Parish; and the writer noted it at Grand Isle on June 9, 1933. E. R. Kalmbach saw it

east of Tallulah in the northeastern part of the State on July 6, 1924. Specimens of the Spotted Sandpiper in the museum of Tulane University were taken at New Orleans on May 14, 1890; on the Orleans Canal near New Orleans, April 20, 1888, and April 27, 1890; at Grand Isle, September 7, 1900; and in Plaquemines Parish, May 5, 1864. One in the Chicago Academy of Sciences was collected by E. G. Wright at Avery Island, May 16, 1930; others in the Biological Survey were taken by T. D. Burleigh at New Orleans, May 21, 1935, and July 16, 1935. J. S. Campbell gives this Sandpiper as a rare transient at Bienville, chiefly in April, October, and November. Ambrose Daigre collected one specimen at Grand Isle on April 22, 1937; and S. Ward three there on July 22, 1937, and one at Baton Rouge, April 21, 1937.

It has been seen by George H. Lowery, Jr., during December and January on False River and the Amite River. The following winter records in the Mississippi River Delta are from observations by the writer, all of a single individual: Delta Duck Club on Octave Pass, January 22, 1932; Dennis Pass, December 17, 1932; Main Pass, December 19, 1932; and Dead Woman Pass, December 18, 1932.

EASTERN SOLITARY SANDPIPER

Tringa solitaria solitaria Wilson

This bird is a somewhat smaller edition of the Lesser Yellowlegs, without the white at the base of the tail above. On account of the fact that it seldom if ever assembles into flocks, but appears singly or in pairs, it has acquired the name that it bears.

It is found about ponds, sloughs, and lakes of the interior, and also along the bayous and in the marshes of the coast regions. Sometimes it is seen even along irrigation ditches or the canals of the ricefields. On rare occasions, especially during migration, it appears in considerable numbers. It is not particularly shy, and has a rather sharp note, not loud, which sounds a little like the syllables 'peep-weep', or sometimes a rather weak 'pit-pit-pit'. In its general movements on the ground it is much more de-

liberate than the Spotted Sandpiper, but on the wing it is active and flies often swiftly and high, although at times when feeding it merely moves on the wing to another place not far away.

Along the margins of streams, pools, and other bodies of water, where it so frequently is seen, it finds its food of various kinds of aquatic insects, worms, mollusks, and similar animals; also spiders, crustaceans, and even small frogs.

The nesting habits of this sandpiper are distinctive. Like the European Green Sandpiper it occupies for breeding purposes the abandoned nests of other birds built in trees. The nests of such species as the Waxwing, Kingbird, Robin, and Bronzed Grackle, sometimes almost 40 feet from the ground, are occupied. So unusual a nesting site was little suspected in the early days of observation of this bird, and many probably erroneously identified nests were said to have been found on the ground. The eggs are four, and have a ground color of light green or buff, handsomely marked with blotches and spots of dark browns, gray, and drab. There is relatively little known regarding the home life of this bird.

The Eastern Solitary Sandpiper is a casual winter resident in southern Louisiana, and a fairly common spring and autumn transient, from February 15 to May 12, casually to the first week in June, and from July 9 to the latter part of November, over practically all of Louisiana, but most frequently observed in the eastern part of the State; and recorded from The Rigolets and from Phoenix in Plaquemines Parish to Cameron Parish, also north to Monroe and Bienville. It is by several authors reported to pass the winter in this State, but the writer has been able to find only a single definite winter record, that of three individuals observed by him, January 23, 1928, on the Lower Vermilion River in Vermilion Parish.

Specimens have been examined from several localities. A single individual was taken at New Orleans on April 6, 1897, by Andrew Allison. The writer has seen also the fol-

lowing specimens in the museum of Tulane University at New Orleans: New Orleans, April 11, 1888, April 16, 1864, April 20, 1890, and April 23, 1864; Greenville, April 3, 1888; Lewisburg, October 12, 1874; and a single bird in the museum of the Louisiana Department of Conservation at New Orleans, from Grand Isle, April 11, 1931. A male in the Biological Survey was taken by T. D. Burleigh at New Orleans, August 5, 1935. An individual, not examined in the present connection, was captured by H. W. Henshaw at The Rigolets, April 3, 1870; and another was taken by C. C. Sperry at Chenier au Tigre, July 21, 1925. Several were noted at Phoenix in Plaquemines Parish, April 9 to 10, 1918, by H. H. Kopman; and at New Orleans, February 15, 1913, by the same observer. Andrew Allison saw it also at New Orleans on March 5, 1900. E. R. Kalmbach reports that two pairs were seen almost daily early in May, 1925, along the canal south of Gueydan, and that individuals were noticed several times between August 1 and 10, 1925, in the same locality. J. S. Campbell indicates that it is a transient, not common, at Bienville, observed on August 23 and September 5, 1933.

WESTERN SOLITARY SANDPIPER

Tringa solitaria cinnamomea (Brewster)

The Western Solitary Sandpiper is a casual spring transient, recorded from only southern Louisiana.

There is but a single record for the State, that of an adult male now in the museum of the Louisiana Department of Conservation at New Orleans, taken on April 12, 1930, at Grand Isle by E. S. Hopkins.

EASTERN WILLET

Catoptrophorus semipalmatus semipalmatus (Gmelin)

One of the larger shorebirds, mostly gray in color above, with white under parts and a conspicuous white patch on the wing, this bird is readily recognizable among the inhabitants of the shores and marshes.

It is found almost everywhere in the coast regions, and sometimes for a considerable distance inland, although it is preeminently a bird of the coast. It frequents alike the ocean beaches, the marshes, inlets, and lagoons of the adjoining areas. Its loud, rather musical call, something like 'pill-will-willet', draws attention to the bird, and it is for this and other reasons a very well-known wader. Its ordinary flight is not particularly swift, but rather deliberate. Sometimes the bird is shy, but sometimes it is easily approached within a reasonably short distance. While it is seen usually along the edges of the marshes, on the mud flats, or sandy beaches, it often ascends to fenceposts, rocks, trees, or even buildings. It is a fairly good swimmer, but apparently does not regularly engage in this activity.

Its food is gathered on the flats and beaches, or along creeks and ditches, and it is fond of various kinds of aquatic life, such as mollusks, crabs, worms, water insects, and small fishes. Such vegetable matter as the seeds and roots of grasses, and sometimes grain, such as rice, is also consumed.

The nest is commonly placed along the shore on the ground in the sand above the high-water mark, occasionally in pastures, or other upland situations. The nest itself is merely a hole in the sand or earth, lined with bits of sticks, pieces of sedge or grass, and similar materials. Often it is well concealed by a bush or clump of grass. Sometimes the nests are rather more elaborate, being built up from the ground in the grass of the marsh. Occasionally the eggs are laid on the sand without apparent attempt to construct a nest. The eggs are usually four in number, of various shades of buff, spotted with dark brown and gray. The parents are unusually demonstrative and noisy whenever the nest is approached, and they seem to have little or no regard for their own safety in their attempts to drive or lure away any intruder that approaches the nest. Like those of many of the shorebirds the nests are subject to considerable danger from high tides, floods, and storms.

The Eastern Willet is a common permanent resident on the islands, beaches, and prairies of the Gulf Coast region of southern Louisiana, from the delta of the Mississippi River, Grand Isle, Chenier au Tigre, and near the mouth of Johnson Bayou in southern Cameron Parish, north to Chandeleur Island, Isle au Pitre, Avery Island, Cameron Farm 14 miles south of Vinton, and Calcasieu Parish. It breeds from March to August, and there are records of eggs from the first week in April to the last week in July.

Eggs of this bird, taken at Calcasieu Pass in 1854, were sent to the Smithsonian Institution by G. Würdemann. E. R. Kalmbach reported it at Chenier au Tigre, May 7, 1925, and on the beach of the Gulf of Mexico at the mouth of the Mermentau River, August 11 to 12, 1925. The writer noted this species, presumably breeding, at the following localities along the coast of Saint Bernard and Plaquemines parishes in 1933; Isle au Pitre and Brush Island, June 3; Martin Island, Mitchell Island, Freemason Island, and Chandeleur Island, June 4; Stake Island, Curlew Island, and Breton Island, June 5. It appears to be of general distribution all along this part of the coast, at least during the summer months.

Specimens of the Eastern Willet in the museum of Tulane University have been examined from the following localities: Isle Derniere, March 5, 1896; Grand Isle, September 3 and 11, 1900; and Barataria, November 3, 1892; in the museum of the Department of Conservation at New Orleans, from Grand Isle April 9, 1936, taken by Ambrose Daigre; also in the Biological Survey, from Leedyburg in southwestern Cameron Parish, April, 1926, collected by Arthur Svihla; and in the Chicago Academy of Sciences, obtained by E. G. Wright, from Brush Island, June 11, 1930; Chenier au Tigre, May 24 and 27, 1930; Breton Island, May 27, 1930; and Avery Island, May 13, 1930. Other examples identified by the writer are in the Colorado Museum of Natural History, all obtained by A. M. Bailey: from Karoco Pass in Mississippi Sound, March 20, 1917; Breton Sound, May 13, 1917; Mississippi Sound, March 26 and 27, 1917;

Chef Menteur, March 3, 1917; Grand Pass, June 8, 1919; and Chenier au Tigre, March 3 and 8, 1918.

A few Willets seen along the shore of the Gulf of Mexico east of Johnson Bayou in Cameron Parish by Vernon Bailey between January 6 and 13, 1926, and the following records of the writer belong doubtless to the present race: Grand Chenier, December 31, 1932; and in the Mississippi River Delta on Octave Pass, Gasper Pass, and Main Pass, several seen, December 19, 1932; Delta Duck Club on Octave Pass, January 22, 1932; and 100 seen at Chateau Canard on Main Pass on the same day.

WESTERN WILLET

Catoptrophorus semipalmatus inornatus (Brewster)

The Western Willet is a winter resident, from July 2 to April 23, apparently uncommon, in southern Louisiana, probably along most of the Gulf Coast, at least from the Mississippi River westward; and a rare transient in the interior of central and northern Louisiana. This is not the breeding form of Louisiana, though it has often been reported as such, probably because the two forms are practically indistinguishable in the field. As above stated, the breeding willet of Louisiana is the eastern race, *Catoptrophorus semipalmatus semipalmatus* (Gmelin).

Specimens of the Western Willet have been examined as follows: in the museum of the Louisiana Department of Conservation at New Orleans, birds from Grand Isle, April 23, 1928, April 4, 1928, and April 16, 1930; one in the museum of Tulane University from The Jump, near Venice, in the northern part of the delta of the Mississippi River, December 9, 1884; in other collections from Grand Isle, July 2, 1937, taken by George H. Lowery, Jr., Chenier au Tigre, January 21, 1919, Lake Borgne, March 23, 1917, and Isle au Pitre, March 27, 1917, by A. M. Bailey.

The bird reported by George H. Lowery, Jr., from Monroe in northern Louisiana, April 30, 1930,⁹⁵ probably should

⁹⁵Bull. La. Poly. Inst., Vol. XXIX, No. 4, November, 1931, p. 24.

be referred to the western form, as he states; as should likewise the Willet observed by J. S. Campbell at Cross Lake, near Shreveport, July 24, 1932.

GREATER YELLOWLEGS

Totanus melanoleucus (Gmelin)

The gray, light spotted, upper parts, with a white patch at the base of the tail above, greenish yellow legs, and a long bill, distinguish this bird from most of its relatives.

Along many parts of the Atlantic Coast, which now are devoted largely to summer resorts and the so-called improvements of civilization, this bird formerly found a congenial home, and many years ago was very abundant. It is a bird that breeds only in the far north, but it has a long migration journey, since it winters in the pampas region of Argentina in southern South America. Its loquacious habits have earned for it the name that is often applied to people who talk too much, whether they say anything or not, the epithet 'telltale' or 'tattler'. It is so loud and vociferous that it frequently warns other birds of the approach of danger. It has only a few, rather liquid, whistled notes, which are easily distinguished from all except those of its smaller relative.

It lives both in the interior and along the coast, and is fond of the muddy shores of ponds, of lakes, and of streams. It is a rather less gregarious bird than the Lesser Yellowlegs, and is not so frequently seen in large flocks. It does, however, associate commonly with various other shorebirds on beaches and mud flats, as well as with ducks and other water birds. There it seeks its food of insects, worms, crustaceans, and occasionally small fishes. In feeding it has the habit of running rapidly through shallow water with its bill under the surface, which gives the impression of sport rather than of serious search for food. Occasionally several individuals engage in this behavior, even one behind the other, which is an interesting exhibition. One of its habits that scarcely fails to attract attention is that when it alights upon the ground it raises its wings almost

vertically for a moment or two, as though stretching, or as if its footing were insecure, and this performance engaged in by a flock of these birds simultaneously is decidedly pleasing to see. Its flight is strong and rapid, and may be performed singly or in small flocks.

The nest of the Greater Yellowlegs is a rather frail structure of grass and other plants, placed on the ground in a slight depression. The usually four eggs are grayish white, with spots of brown and lilac.

The Greater Yellowlegs is an uncommon winter resident, from July 20 to May 30, in the Gulf Coast region of southern Louisiana, from the delta of the Mississippi River, Grand Isle, Marsh Island, the Rainey Wild Life Sanctuary, Chenier au Tigre, and the Gulf Coast of Cameron Parish, north to Sabine Station in Calcasieu Parish, Abbeville, and New Orleans; fairly common as a spring and fall transient in southern Louisiana and also elsewhere in the State, reported north to Monroe, Liberty Hill, Arcadia, and Gibsland. It frequents chiefly the various bodies of water along the Gulf Coast, and the lakes and larger streams of the interior.

Specimens in the museum of Tulane University have been examined from Sabine Station in southwestern Calcasieu Parish, collected, February 20, 1889, and April 8, 1892. The species was also noted in winter, January 6 to 13, 1926, along the shore of the Gulf of Mexico in Cameron Parish, by Vernon Bailey. It was seen by W. L. McAtee at Cameron between November 28 and December 6, 1910, and at Grand Chenier, December 1 to 2, of the same year; also by Ambrose Daigre at Grand Isle, April 6 and 11, 1936. The writer noted it near Deep Lake in Terrebonne Parish, December 23, 1932; and Stanley C. Arthur observed it at Marsh Island from February 6 to 8, 1915. It was reported by W. W. Edwards as common in winter near Abbeville; and by George E. Beyer, as wintering at New Orleans. The last-mentioned observer noted it near New Orleans, April 27, 1895. H. H. Kopman sent two specimens to the United States National Museum from Diamond in Plaquemines Parish, taken, March 31, 1899. Other specimens now in the

museum of Tulane University were collected at Pointe a la Hache, April 3, 1890; New Orleans, March 14, 1882, March 19, 1891, and November 3, 1873; and at Rayne, March 27, 1893. E. R. Kalmbach obtained this species also at Gueydan, May 30, 1925. J. S. Campbell observed it at Liberty Hill, April 24, 1933; Pool's Pond near Bienville, August 5, 1932, and September 12, 1932; Gibsland, October 2, 1933; and Arcadia, October 10, 1933. S. C. Arthur collected it at Isle Derniere on February 2, 1918; and S. Ward at Grand Isle on July 20, and 21, 1937.

LESSER YELLOWLEGS

Totanus flavipes (Gmelin)

The Lesser Yellowlegs, or, as it is often called, 'summer yellowlegs', is but a small edition of the Greater Yellowlegs, being practically identical in color with that bird. If anything, it is even better known than the larger species, as in many places it is decidedly more numerous. It was formerly a very abundant bird, but much hunting has reduced its numbers to the point where entire protection is necessary in order to bring it back.

It lives in the marshes, along the beaches and various bodies of water of the coast region, and about streams, lakes, ponds, and other bodies of water in the interior. William Brewster has so well described the behavior of this bird that it seems worth while to quote his description:

"The summer yellowlegs seems an exact counterpart of the winter [yellowlegs] in respect to general appearance and behavior. It has the same firm, measured step, when walking about in quest of food; the same perfection of form and outlines, and grace of position, when standing erect and watchful; the same habit of tilting its body and alternately lengthening and shortening its neck with a bobbing motion, when suspicious of danger and about to take wing. Its flight, also, is essentially similar to that of its big cousin, but somewhat slower and more buoyant, and hence not so suggestive of momentum as that of the larger, heavier-bodied bird".

The notes of this bird likewise are almost identical with those of the Greater Yellowlegs, but usually fewer in number.

The food of the Lesser Yellowlegs is sought along the shores, along the edges of the marshes, or similar places, where mud or sand flats are to be found. This consists largely of crabs and other crustaceans; insects, such as grasshoppers, flies, and bugs; small fishes; worms; snails; and similar aquatic animals.

The nest is found ordinarily in more or less open woodlands, usually near the water, sometimes in burnt-over areas. It is placed on the ground, among the grass, usually well concealed by trees, bushes, or fallen logs. It is a depression in the ground or moss, lined with leaves or grass, and is not an elaborate structure. The three or four eggs are buff, marked with dark brown and drab. Both of the adults take part in the incubation, and the young are well watched over by the parents, both of which exhibit much alarm when the young are approached by a potential enemy.

The Lesser Yellowlegs is a common winter resident, from August 2 to May 14, more numerous during migrations from March to April and from September to October, in the Gulf Coast region of southern Louisiana, from the Mississippi River Delta, Grand Isle, the Rainey Wild Life Sanctuary, and Grand Chenier, north to Lockport in La Fourche Parish, and the vicinity of New Orleans; a transient, apparently common locally, in central and northern Louisiana, in March, April, August, and September; reported north to Monroe and Bienville. It is of casual occurrence in summer in the Gulf Coast region.

E. R. Kalmbach found this species in the rice belt near Gueydan, April 29, May, 1, 5, and 7, and July 10, 1925, and also southwest of Crowley on April 25 of the same year. Ambrose Daigre and George H. Lowery, Jr., noted it frequently at Grand Isle from April 3 to 26, 1936. Several were taken by W. L. McAtee at Camp Bayou on Octave Pass, January 29, 1910; and the writer observed the species common at the Delta Duck Club on Octave Pass, January 22,

1932; on Codro Pass in the delta of the Mississippi River, December 18, 1932; on the Pass a Loutre Hunting Preserve in the Mississippi River Delta on January 23, 1932; and saw 70 individuals on Main Pass near Chateau Canard, January 22, 1932. H. H. Kopman reported it at Bayou Bienvenue, east of New Orleans, on December 21, 1917. The writer noticed it on the Company Canal between Lockport and Bourg, January 26, 1932; and near Deep Lake in Terrebonne Parish, December 23, 1932. W. L. McAtee reported it fairly common at Grand Chenier, December 1 and 2, 1910; and E. S. Hopkins noted a single individual on the lower Vermilion River, January 23, 1928. At Bienville J. S. Campbell says that it is a regular migrant, more numerous in autumn; and he collected it on March 27, 1933.

Specimens in the H. W. Henshaw collection were taken at The Rigolets, March 12, 1870, and April 9, 1870; and specimens in the museum of Tulane University are from Diamond, August 9, 1894, Pointe a la Hache, April 3, 1890; and New Orleans, March 19, 1891, April 8, 1861, April 26, 1891, and May 14, 1882. W. L. McAtee collected six at Belle Isle on March 2, 1910; and a specimen in the museum of the Louisiana Department of Conservation at New Orleans was taken at Grand Isle, April 16, 1933; others by Ambrose Daigre, April 3, 1936, April 14 and 19, 1937; by Winston E. Nolan, April 13, 1937; and by S. Ward, August 2, 1937. Eight specimens examined by the writer were collected at Oberlin, May 6, 1933, by W. A. Douglas; and one at New Orleans, July 23, 1935, by T. D. Burleigh.

AMERICAN KNOT

Calidris canutus rufus (Wilson)

The American Knot is a rare spring and autumn transient, from March 28 to May, and from September to October 28, also an occasional summer visitor, along the Gulf Coast beaches and islands of southern Louisiana; reported only from Errol Island and Isle au Pitre west to the mouth of the Mermentau River. There is no specific winter record for the State, although reported by A. C. Bent and others

to occur at this season. The only definite occurrences of the species in Louisiana of which we have record are given below:

George E. Beyer, Andrew Allison, and H. H. Kopman report specimens in the museum of Tulane University, from Grand Isle, obtained on March 28 and April 2," but the writer has been unable to find these. There has been examined, however, a single individual in the museum of Tulane University, taken on September 3, 1900, at Grand Isle. There is also a specimen in the museum of the Louisiana Department of Conservation at New Orleans from the same locality, April 1, 1931; and another in the State Department of Agriculture collection in the State Capitol at Baton Rouge, from Grand Isle, May 20, 1933, both of these collected by Winston E. Nolan. A specimen from Errol Island, taken June 6, 1919, and another on June 9, 1930, are recorded by A. M. Bailey and E. G. Wright." Another was collected by E. G. Wright at Breton Island, June 4, 1930. The writer noted four individuals at Isle au Pitre on June 3, 1933; and E. R. Kalmbach saw a flock of eight or ten on the Gulf of Mexico at the mouth of the Mermentau River, June 17 to 18, 1925. A flock of eight was seen by Earl R. Smith and E. S. Hopkins along Bayou Loutre in Saint Bernard Parish on May 9, 1926. The species was observed and a specimen taken by George H. Lowery, Jr., at Grand Isle, October 27, 1935.

PECTORAL SANDPIPER

Pisobia melanota (Vieillot)"

Among the smaller sandpipers this is one of the birds that is better known. It has a number of other names given it by sportsmen and others, who distinguish it from the other sandpipers as 'grassbird', 'jacksnipe', and 'creaker'. Its streaked dark and light brown upper parts, black rump, and white under parts, with a broad brownish breast band, identify it rather easily among the sandpipers of moderate

⁶⁶The Auk, Vol. XXV, No. 2, April, 1908, p. 178.

⁶⁷Wilson Bulletin, Vol. XLIII, No. 3, September, 1931, p. 196.

⁶⁸*Pisobia melanotos* of the 1931 edition of the A. O. U. Check-List.

size. Formerly it was much hunted as game, but at the present time it is properly included among the sandpipers that have complete protection.

It lives along the shores of the coastal waters, also about the streams and other bodies of water in the interior. It is found sometimes in considerable flocks, either by itself, or associated with other sandpipers. It is one of the sandpipers that has a long migration route, from the Arctic regions of America south as far as Patagonia.

Its food, like that of many of the other sandpipers, consists largely of various kinds of beetles, bugs, flies, grasshoppers and other insects, small crustaceans, worms, and some vegetable matter such as algae.

The courtship of this bird is so remarkable that it seems worth while to quote E. W. Nelson's account:

"Standing in the thin grasses 10 or 15 yards from me, with its throat inflated until it was as large as the rest of the bird, was a male. The succeeding days afforded opportunity to observe the bird as it uttered its singular notes under a variety of situations and at various hours of the day or during the light Arctic night. The note is deep, hollow, and resonant, but at the same time liquid and musical, and may be represented by a repetition of the syllables 'too-u, too-u, too-u, too-u, too-u, too-u, too-u, too-u'. Before the bird utters these notes it fills its esophagus with air to such an extent that the breast and throat is inflated to twice or more its natural size, and the great air sac thus formed gives the peculiar resonant quality to the note. The skin of the throat and breast becomes very flabby and loose at this season, and its inner surface is covered with small globular masses of fat. When not inflated, the skin loaded with this extra weight and with a slightly serous suffusion which is present hangs down in a pendulous flap or fold exactly like a dewlap, about an inch and a half wide. The bird may frequently be seen running along the ground close to the female, its enormous sac inflated, and its head drawn back, and the bill pointing directly forward, or,

filled with spring-time vigor, the bird flits with slow but energetic wing strokes close along the ground, its head raised high over the shoulders, and the tail hanging almost directly down. As it thus flies it utters a succession of the hollow, booming notes, which have a strange ventriloquial quality. At times the male rises 20 or 30 yards in the air and inflating its throat glides down to the ground with its sac hanging below. Again he crosses back and forth in front of the female, puffing his breast out and bowing from side to side, running here and there as if intoxicated with passion. Whenever he pursues his love-making, his rather low but pervading note swells and dies in musical cadences".

The nest is placed in the grass, usually in a dry situation, sometimes near water, or in the moss of the tundra; sometimes an inconsequential structure, sometimes more substantially made of leaves, moss, or grass. The four eggs are buff with markings of dark brown and gray. The female seems to perform most of the duty of incubation, and of taking care of the young, the latter of which she does with great solicitude.

The Pectoral Sandpiper is a common transient visitor, from March 9 to May 20, and from July 17 to October, in the Gulf Coast region of southern Louisiana, chiefly on the marshes and prairies, from Bayou Loutre in Saint Bernard Parish, the Mississippi River Delta, Grand Isle, and Cameron Parish, north to The Rigolets, Lake Borgne, New Orleans, West Baton Rouge Parish, Crowley, and Oberlin; also a rare transient in central and northern Louisiana, reported north to Ruston and Monroe by George H. Lowery, Jr.; and an occasional winter resident in southwestern Louisiana.

The writer saw 15 of these birds at Calcasieu Lake, December 30, 1932, and 30 on Little Wax Bayou in Saint Mary Parish, January 28, 1932. J. S. Campbell regards it as a rare transient in Bienville Parish; he came upon a small flock along Saline Creek, May 3, 1932; and obtained a single specimen near Bienville on May 8, 1933. The species was taken at Quarantine (Cubit's Gap) in the Mississippi River Delta by C. C. Sperry, August 2, 1925, and at Grand Isle,

April, 1931, by Winston E. Nolan. Three other specimens from Grand Isle, taken, April 21, 1928, by E. S. Hopkins, are now in the museum of the Louisiana Department of Conservation at New Orleans. Specimens in the museum of Tulane University examined in the present connection are from Pecan Grove, March 9, 1890; New Orleans, March 19, 1889, March 19, 1891, March 23, 1886, March 30, 1873, and September 5, 1864. Also specimens obtained by W. A. Douglas at the following localities have been identified: Crowley, May 12 and 13, 1932; six miles north of Crowley, May 3, 1933; Oberlin, May 6, 1933; a specimen in the Biological Survey collection in the United States National Museum was taken on August 26, 1925, by E. R. Kalmbach at Gueydan; one from Leedyburg in southwestern Cameron Parish by Arthur Svihla in April, 1926; another at New Orleans by T. D. Burleigh on August 24, 1935; and two in the museum of the Louisiana State University, by S. Ward and George H. Lowery, Jr., at Baton Rouge on March 24, 1937.

WHITE-RUMPED SANDPIPER

Pisobia fuscicollis (Vieillot)

The White-rumped Sandpiper, or as it is sometimes called, 'Bonaparte Sandpiper', is another of our small shorebirds that make long migration journeys, since it winters as far south as southern South America. It may most readily be distinguished from the other small sandpipers by its rather conspicuous white rump, from which its common name is derived.

It lives not only in the coastal waters and marshes, but also about ponds, sloughs, lakes, and other bodies of water of the interior. It is found singly or in flocks or scattered companies, frequently associated with other shorebirds.

Its food consists chiefly of insects, such as grasshoppers and curculios, which are injurious to farm crops; worms; snails and other mollusks; and seeds of various plants.

The nest is placed in a hollow in the ground, or in the moss, sometimes in rather dry situations. It is composed of grass and small leaves. The four eggs are of the usual

sandpiper type, olive buff, with spots and blotches of dark brown and drab. The adults are very solicitous for the welfare of the nest and young, and when either is threatened by an intruder the female usually attempts to beguile the intruder away from the objects of her solicitude.

The White-rumped Sandpiper is a fairly common, though local, transient, from March to early June, and also reported in August, on the islands, beaches, marshes, prairies, and ricefields of the Gulf Coast region of southern Louisiana, from the Chandeleur Islands to Cameron Parish, and north to Lobdell, Avery Island, and Gueydan. It is apparently not known from central or northern Louisiana.

Beyer, Allison, and Kopman reported it from Chandeleur Island, Breton Island, East Timbalier Island, and Isle Derniere,⁹⁹ and it has been noted also on the Gulf Coast beaches of Cameron and Vermilion parishes.¹⁰⁰ Andrew Allison observed it at Lobdell, May 14, 15, and 17, 1903, and collected a specimen on May 14, which he transmitted to the United States National Museum. It has been recorded also by A. M. Bailey and E. G. Wright from Avery Island as rather common in May, 1930;¹⁰¹ in which locality E. G. Wright obtained a specimen on May 17, 1930. E. R. Kalmbach reported it in flocks near Gueydan, in May, 1925, and collected a specimen there on May 17, 1925. Two females taken by T. D. Burleigh at New Orleans, May 31, 1935, have been examined in the present connection.

BAIRD SANDPIPER

Pisobia bairdii (Coues)

The Baird Sandpiper is a rare transient visitor, of which the only published record is apparently the statement of George E. Beyer¹⁰² that it is not as common as some of the other species of sandpipers but is generally found with flocks of the Pectoral Sandpiper and others. A single speci-

⁹⁹The Auk, Vol. XXV, No. 2, April, 1908, p. 178.

¹⁰⁰Bull. La. Dept. Cons., No. 20, December, 1931, p. 281.

¹⁰¹Wilson Bulletin, Vol. XLIII, No. 3, September, 1931, p. 197.

¹⁰²Proc. La. Soc. Naturalists, for 1897-1899 (1900), p. 95.

men taken by Arthur Svihla at Leedyburg in southwestern Cameron Parish in April, 1926, is the only definite record for the State.

LEAST SANDPIPER

Pisobia minutilla (Vieillot)

This bird is well named, for it is the smallest of our sandpipers. Its rather weak note is probably responsible for one of the names, 'peep', by which it, in common with the Semipalmated Sandpiper, is frequently called by sportsmen and others. Many persons, furthermore, do not distinguish between these two birds, but the present one may be separated from the other by its darker, more blackish upper parts, and greenish instead of black legs and feet.

Almost any place where water is to be found is attractive to this little bird, and it sometimes occurs in large flocks along the shore of the ocean, on the mud flats of the marshes, or the flats bordering bodies of water of all kinds in the interior. It frequently associates with the Semipalmated Sandpiper and others. At times it gathers into flocks of large size, and these flocks perform remarkable evolutions over the marshes or along the shore.

The marshes and beaches are its favorite feeding grounds, and here it pursues the insects, such as flies, mosquitoes, beetles, and other insects that form a considerable part of its food. Worms, small crustaceans, small mollusks, seeds, and other parts of plants are also eaten.

The nest is placed either in damp grassy or mossy areas, and even in dry situations. It is built on the ground, usually in a depression, which is lined with moss, dry leaves, and grass. Four eggs are the ordinary number and they are usually pale buff with markings of dark brown and drab. The male is largely responsible for the incubation of the eggs, but both parents take good care of the young birds after they are hatched.

The Least Sandpiper is a common permanent resident, less numerous in summer, on the beaches, marshes, water-

ways, and prairies of the Gulf Coast region of southern Louisiana, from Breton Island, the Mississippi River Delta, Grand Isle, and Cameron, north to Isle au Pitre, Lake Catherine, and New Orleans; also a fairly common transient, from April 1 to May 25, and from August 26 to September 19, in central and northern Louisiana, reported north to Monroe and Bienville. It does not breed in the State, but individuals remain all summer along the coast and on the islands.

E. G. Wright collected it on Breton Island on June 9, 1930; and the writer observed it on Grand Gosier Island, June 6, 1933; and on Curlew Island, June 5, 1933. A specimen in the museum of the Louisiana Department of Conservation at New Orleans was obtained at Grand Isle on June 7, 1933. Others were taken by E. S. Hopkins at Grand Isle on March 25 and 28 and April 22, 1926. George H. Lowery, Jr., observed it at Cameron on June 20, 1935. George E. Beyer noted it about December 25, 1905, at Lake Catherine. H. W. Henshaw collected a specimen at Lake Borgne, April 1, 1870. Specimens in the museum of Tulane University were taken at New Orleans, May 6, 1890, and April 27, 1888; also at Greenville, September 19, 1888; and by T. D. Burleigh at New Orleans, July 27, 1935. It was reported at Lobdell by Andrew Allison on May 15, 1903. It was seen by the writer at the Delta Duck Club on Octave Pass in the Mississippi River Delta, to the number of 233, on January 22, 1932. The writer found it also common at Cognovich Pass in the Mississippi River Delta, December 18, 1932, and at other places on the Pass a Loutre Hunting Preserve, January 23, 1932. Stanley C. Arthur reported it at Marsh Island, February 6 to 8, 1915; W. A. Douglas obtained it at Crowley, May 13, 1932; and E. R. Kalmbach, at Lake Claire on the northern shore of White Lake in Vermilion Parish, May 6, 1925. E. R. Kalmbach collected it also at Cameron Farm 14 miles south of Vinton, April 30 and May 13, 1919, and observed it south of Gueydan on May 7, 1925; and the writer found it along the beach of the Gulf of Mexico, near Mud Lake in Cameron Parish, January 26, 1928. J. S. Campbell regards this sandpiper as a common

transient in Bienville Parish; and at Bienville obtained specimens, May 5 and August 26, 1933. S. Ward collected it at Grand Terre on July 16, 1937.

RED-BACKED SANDPIPER

Pelidna alpina sakhalina (Vieillot)

This bird, frequently called 'American Dunlin', or simply 'red back', is in spring plumage one of the most easily distinguished of the smaller shorebirds. It is, however, but little smaller than the Pectoral Sandpiper. Its reddish back, white under parts, with a large black area on the upper abdomen, make it easily identifiable in the field. In autumn, however, it is rather dull brownish gray above, and white below with only a relatively few dark streaks.

In certain parts of the coast region of North America it is often abundant. It breeds in the far north and visits the United States during migration and in winter. At times it appears in considerable flocks, often associated with others of the smaller shorebirds. While it is fond of the neighborhood of the ocean, it is found also along the streams and bodies of water in the interior. One of its favorite haunts is a broad, nearly level, beach, to which the waves bring up the small water animals on which the bird frequently feeds. Along the edge of the water this bird stands or runs rapidly, flying up at the approach of a person or an enemy, or of the water.

During the breeding season, and particularly during mating time, it has a rather pleasing series of notes which might be considered a song. This is often used at mating time, and the mating performance is rather an interesting one. The male rises in the air as he approaches the object of his affections, sometimes to a height of 50 or 60 feet, hovering and singing until finally he descends to the ground to repeat the performance after a short intermission.

The food of this bird, obtained largely from the mud or sand flats along the ocean or other bodies of water, is made up mostly of small crustaceans, mollusks, and such insects

as aquatic beetles and flies and their larvae, worms, and to a limited extent the seeds of water plants. In feeding it often probes in the sand or mud, even to the extent of thrusting its head under the water, and if it happens to go beyond its depth it swims easily into shallower water.

The nest of this species is ordinarily on the drier portions of its summer home, or on a hummock in a marshy area. This is usually fairly well hidden amidst the grass and moss, and composed chiefly of grasses, lined with small leaves and similar materials. The four eggs are rather variable, pale greenish or olive buff, conspicuously marked with blotches and spots of various shades of dark brown and gray. Like many of the shorebirds it does not breed in colonies, but scatters the nests about wherever suitable places are to be found.

The male assists the female in the duty of incubation and also in the care of the young after the 22 days of sitting have elapsed. As soon as the young are dry they are able to run about and follow their parents, by whom they are carefully protected.

The Red-backed Sandpiper is a rather common winter resident, from November to June 6, and a casual summer resident, on the islands, beaches, and along the bayous and other bodies of water in the Gulf Coast region of southern Louisiana, from the Mississippi River Delta, Grand Isle, Chenier au Tigre, and Cameron Parish, north to Freshwater Bayou in Calcasieu Parish, New Iberia, and New Orleans. It is apparently not recorded from central or northern Louisiana.

The writer observed it at the Delta Duck Club on Octave Pass in the Mississippi River Delta on January 22, 1932, and also to the number of 75 individuals at Chateau Canard on Main Pass in the Mississippi River Delta on the same date. It was abundant at Lake Felicity, December 23, 1932, where 700 were seen. A. M. Bailey reported it at Chenier au Tigre, December 8 to 18, 1925, where he collected a specimen on December 15 of the same year, and at Isle Derniere, December 8, 1918.

A specimen in the museum of Tulane University was taken, January 11, 1894, on Freshwater Bayou in Calcasieu Parish, and another at Sabine Station in the same parish, January 30, 1888. A specimen in the museum of the Louisiana Department of Conservation at New Orleans was collected by Winston E. Nolan on Grand Isle, March 23, 1931, and another at Saint Bernard by E. S. Hopkins, November 30, 1924. Also, George H. Lowery, Jr., obtained one at Grand Isle on October 27, 1935, and another on April 15, 1937. A. B. Blakemore reported it at New Orleans, November 1, 1895. The writer saw two individuals on Isle au Pitre, June 3, 1933, and 12 on Grand Gosier Island, June 6 of the same year.

EASTERN DOWITCHER

Limnodromus griseus griseus (Gmelin)

The dowitcher, a bird about the size of the Wilson Snipe, is well known to both sportsmen and naturalists. Its black upper surface, mottled with cinnamon and whitish, and partly white rump, together with its long bill and mostly cinnamon under parts with blackish spots, will serve to separate it from the other related shorebirds, although in the winter it assumes a gray plumage that is very similar to some others. It is one of the best known of all the shorebirds along the eastern coast of the United States, and it is of regular occurrence in many parts of the interior.

Like many other well-known birds the dowitcher has a great many different common names, such as 'robin snipe', 'quail snipe', 'German snipe', and 'gray snipe', the latter from its winter plumage.* Its common name 'dowitcher' is a corruption of the German 'deutscher', by which name it was called to distinguish it from its relative the English snipe.

Its habits are those of a sandpiper rather than those of a snipe, and it often gathers into large flocks. It is fond of mud flats and sandy beaches, and prefers these to grassy areas, although it does frequent the meadow ponds and boggy margins of small lakes. When a flock approaches

a favorite feeding ground it usually alights in a compact mass, afterwards scattering in pursuit of the food, which is obtained in a manner similar to that of the Woodcock, that is, by probing vertically in the mud, and in this operation the head and part of the neck are often under water. It is a bird of great power on the wing, and alone and in company performs many interesting flight maneuvers. The song is a rather unusually attractive one for a sandpiper, and is heard frequently on the wing. The birds are not particularly suspicious and can often be readily approached.

The food of this dowitcher comprises various kinds of insects, including grasshoppers, flies, water beetles, and water bugs, together with leeches, worms, and small mollusks.

While the nest and eggs of this form of the dowitcher are not known, they are doubtless similar to those of the Long-billed Dowitcher, which breeds in Alaska. Of that bird the nest is usually near the marshy margin of a small lake. It builds a rather simple home of a few dead leaves or similar materials, in which the usually four pyriform eggs are laid. These have a ground color of drab or olivaceous, with numerous markings of dark brown and blackish. Like those of most shorebirds they are large for the size of the bird. The downy young leave the nest soon after hatching, and, like the young of so many of the shorebirds, are rather dark colored above, beautifully speckled with white and buff.

The Eastern Dowitcher is a winter resident, probably not uncommon, and is of casual occurrence in summer, on the islands and coast of the Gulf of Mexico in southern Louisiana.

It is not, in the field, certainly distinguishable subspecifically from the Western Dowitcher; our present knowledge of its occurrence in the State is therefore confined to the following records of specimens actually collected. Two were taken by C. C. Sperry at Quarantine (Cubit's Gap) in the Mississippi River Delta, August 3, 1925; and three were

obtained by E. G. Wright on June 11, 1930, on North Island along the coast of the State east of the Mississippi River.¹⁰³ A single example was collected on Marsh Island between February 6 and 8, 1915, by Stanley C. Arthur. There is also a bird without date, taken at Grand Isle, that is now in the museum of the Louisiana Department of Conservation at New Orleans. Another specimen, from a Grand Isle reef off Grand Terre, was procured on April 15, 1937, by George H. Lowery, Jr.; and still another at Creole, Cameron Parish, January 1, 1938, by the same collector.

ALBERTA DOWITCHER

Limnodromus griseus hendersoni Rowan

This recently described dowitcher¹⁰⁴ is possibly not uncommon as a winter resident in Louisiana. At present, however, the only records of its occurrence in the State are a single female, taken by George H. Lowery, Jr., at Monroe on September 7, 1933; two individuals collected on July 30 and two on July 31, 1937, at Grand Isle by S. Ward.

LONG-BILLED DOWITCHER

Limnodromus griseus scolopaceus (Say)

The Long-billed Dowitcher is a fairly common permanent resident, most frequently observed from August to June 6, chiefly as a spring and fall transient, and least so in summer, on the islands, beaches, bayous, and other bodies of water in the Gulf Coast region of southern Louisiana, from the mouth of the Mississippi River, Grand Isle, Chenier au Tigre, and Gum Cove in southwestern Cameron Parish, north to Sabine Station in Calcasieu Parish, Morgan City, New Orleans, and Isle au Pitre. It is apparently not reported from either central or northern Louisiana. This seems to be the common form of the dowitcher in Louisiana, and probably most of the sight records belong under this race, although it is difficult in the field for the ordinary observer to distinguish it from the eastern bird.

¹⁰³Bailey and Wright, Wilson Bulletin, Vol. XLIII, No. 3, September, 1931, p. 196.

¹⁰⁴L[*imnodromus*]. *griseus hendersoni* Rowan, The Auk, Vol. XLIX, No. 1, January 4, 1932, p. 22 ("Beaverhills Lake, Alberta").

Specimens of the Long-billed Dowitcher have been examined from Grand Isle, taken, April 3, 1931, and April 17, 1929; from New Orleans, November 26, 1874, and April 24, 1890; from Morgan City, April 24, 1890; and from Sabine Station in southwestern Calcasieu Parish, February 11, 1889. A specimen was also collected by G. Würdemann in the spring of 1854 at Calcasieu Pass, and sent by him to the Smithsonian Institution. W. L. McAtee obtained this Dowitcher at Gum Cove, January 2, 1911; S. C. Arthur saw it at Marsh Island, February 6 to 8, 1915; A. M. Bailey on the State Wild Life Refuge, November 26, 1916, on Mississippi Sound, March 25, 1917; and on Chandeleur Island, June 6, 1918; and George H. Lowery, Jr., at Creole in Cameron Parish, January 1, 1938. In addition to these specimens the following sight records without much doubt belong to this subspecies: several observed by A. M. Bailey at Chenier au Tigre, between December 8 and 18, 1925; and 25 seen by the writer at the Delta Duck Club on Octave Pass on January 22, 1932. The writer noted eight individuals on Isle au Pitre, June 3, 1933, five on Mitchell Island, June 4, 1933, and 16 on the North Islands on the same date.

STILT SANDPIPER

Micropalama himantopus (Bonaparte)

The Stilt Sandpiper is a rare spring and fall transient, observed only in April and from July 27 to September, and in the southern part of Louisiana, although there is no reason for its entire absence in other parts of the State.

There are apparently only five definite records for Louisiana: J. J. Audubon saw a flock of 30 individuals "on the southern shore of the island of Barataria, forty miles from the southwest pass of the Mississippi" on April 4, 1837;¹⁰⁵ A. M. Bailey collected a specimen at Chenier au Tigre on April 6, 1919;¹⁰⁶ there is also a single specimen recently examined in the museum of Tulane University, taken at New

¹⁰⁵Ornith. Biog., Vol. IV, 1838, p. 332.

¹⁰⁶Wilson Bulletin, Vol. XLIII, No. 3, September, 1931, p. 196.

Orleans, September 25, 1888, by Gustave Kohn; one in the Biological Survey obtained by T. D. Burleigh at New Orleans on July 27, 1935; and another also by him at New Orleans, August 1, 1935.

SEMIPALMATED SANDPIPER

Ereunetes pusillus (Linnaeus)

This is one of the small sandpipers that, together with the Least Sandpiper and the Western Sandpiper, go under the common name of 'peep'. It is considerably smaller than the Red-backed Sandpiper, grayish brown above, with markings of black, bay, and whitish, and white below with dark markings on the breast, and with black legs and feet. In winter it is paler, more grayish on the upper parts.

It is at home along the margins of all kinds of water areas, such as streams, bays, lakes, and the ocean shores, but it seems to be most fond of the broad beaches along the ocean and the coastal inlets. On mud or sand flats, and even on the drier portions of the marshes, this bird can be seen at almost any time during the period of its sojourn here. It is a bird of the Arctic regions in summer, but it migrates throughout Central and South America, even sometimes as far as Patagonia.

In flight it is rather swift, and it has the habit of gathering into flocks even of considerable size, which perform remarkable evolutions in the air. Often these flocks are composed entirely of this one species, but at times they are mixed with Least Sandpipers, Western Sandpipers, and even others of the somewhat larger shorebirds. On the beach the bird runs swiftly and is usually active, probing rapidly with the beak in picking up food.

The song is not so frequently heard during the migration season, but is of considerable interest, particularly on the bird's breeding grounds. It is a long trill ending with a few mellow notes. As with most of the shorebirds, the song and other notes are used much in the courtship performance, which is interesting even though resembling that of some of the other shorebirds.

The food of this bird is very similar to that of many other shorebirds. It includes numerous kinds of insects, such as beetles, flies, and bugs; crustaceans; marine worms; mollusks; and sometimes seaweed.

The nest is placed in a depression of the ground, usually in the open country, and often in a clump of vegetation where more or less concealment is thus afforded. It is a very inconsequential structure, composed usually of grass stems, dry moss, and small leaves. The eggs are normally four in number, buff, with markings of various shades of dark brown. Both parents assist in the duty of incubation and in the care of the young.

The Semipalmated Sandpiper is a common, locally abundant, winter resident, from late July to June 13, in southern Louisiana, chiefly in the Gulf Coast region, from the Mississippi River Delta and Cameron Parish north to New Roads in Pointe Coupee Parish; and a transient in spring and autumn throughout the remainder of the State, reported north to Mer Rouge. It probably remains occasionally all summer, frequenting the beaches, marshes, bayous, streams, and lakes, but it is apparently not common in the interior of Louisiana.

E. R. Kalmbach collected a specimen of this bird near Gueydan, May 25, 1925, and the specimen is now in the collection of the Biological Survey in the United States National Museum; as is also one taken at New Orleans, June 13, 1935, by T. D. Burleigh. George H. Lowery, Jr., obtained another at Grand Isle on October 28, 1935. The same observer noted a few individuals on the Mud Lumps at the mouth of Pass a Loutre in the Mississippi River Delta, June 2 to 3, 1919; and Vernon Bailey collected one at Mer Rouge, June 3, 1892. The writer observed 25 individuals on Errol Island, June 5, 1933; 108 on Curlew Island in the Chandeleur chain on the same day; and three on Isle au Pitre, June 3, 1933. One specimen was collected by S. Ward at Grand Isle on June 7, 1937.

Specimens in the museum of Tulane University were collected at New Orleans, April 27, 1888, and May 6, 1890; and

C. C. Sperry obtained the species at Quarantine (Cubit's Gap) in the Mississippi River Delta, August 2, 1925; also E. G. Wright, at Avery Island, May 9, 1930. H. H. Kopman reported it at New Roads along the shore of False River, December 15, 1917, and he noted a few individuals along Hog Bayou at Cote Blanche between Baldwin and Cypremort, January 13 to 14, 1918. Stanley C. Arthur observed it at Marsh Island, February 6 to 8, 1915. The following records are from the writer's notes. About Lake-Felicity on December 23, 1932, this species was abundant, a total of more than 450 birds being noted. A few were seen on the Rainey Wild Life Sanctuary near Abbeville, January 23, 1928, and also 10 on Calcasieu Lake, December 30, 1932. In the delta of the Mississippi River this sandpiper was abundant in January, 1932, and December, 1932. Some 300 individuals were seen on Main Pass, December 19, 1932, many on Cognovich Pass, December 18, 1932, as well as a number on the State Public Shooting Grounds, January 22, 1932. Over 1400 were noted near Chateau Canard on Main Pass, January 23, 1932; and 750 near the Delta Duck Club on Octave Pass, January 22, 1932.

WESTERN SANDPIPER

Ereunetes mauri Cabanis

The Western Sandpiper is a rare winter resident, from July 4 to June 4, along the Gulf Coast of Southern Louisiana, from Isle au Pitre to Vermilion Parish. It possibly remains occasionally throughout the year.

Apparently the only records are as follows. Many were noted during November, 1916, and the species was reported by A. M. Bailey and E. G. Wright to be fairly common during the migrations and in winter, in Vermilion Parish.¹⁰⁷ A few were also seen by A. M. Bailey at Chenier au Tigre daily from December 8 to 18, 1925; and one specimen collected there on December 15.¹⁰⁸ Two specimens examined in the present connection were taken by Winston E. Nolan at Grand Isle, March 23 and March 24, 1931; two

¹⁰⁷ Wilson Bulletin, Vol. XLIII, No. 3, September, 1931, p. 197.

¹⁰⁸ The Auk, Vol. XLV, No. 3, July, 1928, p. 278.

others on July 14, 1937, by S. Ward; and one on April 15, 1937, by George H. Lowery, Jr., at the same locality; others at Grand Terre, on July 16, 1937, by S. Ward, and on April 15 and 16, 1937, by George H. Lowery, Jr.; and three others in the Biological Survey collection, taken at New Orleans May 31, 1935, June 4, 1935, and July 18, 1935, respectively, by T. D. Burleigh. George H. Lowery, Jr., observed six individuals feeding on the shore of Lake Beulah, near Monroe, on December 23, 1932.¹⁰⁹ The writer identified a single individual of this species at Isle au Pitre on June 3, 1933.

BUFF-BREASTED SANDPIPER

Tryngites subruficollis (Vieillot)

The Buff-breasted Sandpiper is a rare spring and autumn transient and casual winter resident, from August 4 to May 15, in southern Louisiana, chiefly on the beaches, islands, bayous, and marshes of the Gulf Coast region, from the coast and islands east of the Mississippi River and from Cameron Parish, north to Abbeville and New Orleans. It is not recorded from northern Louisiana.

The only winter record for the State is a specimen taken by A. M. Bailey at Cameron Farm in Cameron Parish 14 miles south of Vinton on February 27, 1919.¹¹⁰ Two others were obtained in the same region by Thomas Hoffman about August 12, 1919. George E. Beyer collected two specimens out of a flock of eight on the so-called 'Racket-greens' near New Orleans in October, 1887.¹¹¹ H. H. Kopman reported a few seen by Stanley C. Arthur about May 15, 1917, on the Bird Islands east of the Mississippi River. W. W. Edwards noted the species on August 4 and 13, 1884, near Abbeville; and it was taken in Cameron Parish by E. R. Kalmbach on May 1, 1919. There are also specimens of this bird in the museum of Tulane University, examined in the present connection, collected by Gustave Kohn at New Orleans on April 26, 1873, and May 4, 1866.

¹⁰⁹The Auk, Vol. LI, No. 1, January 8, 1934, p. 99.

¹¹⁰Wilson Bulletin, Vol. XLIII, No. 3, September, 1931, p. 199.

¹¹¹Proc. La. Soc. Naturalists, for 1897-1899 (1900), p. 96.

MARbled GODWIT*Limosa fedoa* (Linnaeus)

The Marbled Godwit is a very rare winter resident along the Gulf Coast region of southern Louisiana. Although it is reported by several authors as occurring in Louisiana, the only definite records that the writer has been able to find are two specimens in the Gustave Kohn collection in the museum of Tulane University, both of which were taken at Sabine Station in southwestern Calcasieu Parish, November 23, 1885, and December 20, 1888, respectively.

HUDSONIAN GODWIT*Limosa haemastica* (Linnaeus)

The Hudsonian Godwit is a very rare spring and autumn transient in southern Louisiana, and it has been noted only in April and September.

There are but few definite records for the State, as follows: George E. Beyer reports¹¹² a specimen collected at New Orleans on September 27, 1895, by Gustave Kohn, which a few years later was still in his collection, but which the writer has been unable to find. Two other specimens, however, have been examined in the Kohn collection in the museum of Tulane University, and these were taken at Vinton, April 22, 1893, and at New Orleans, September 6, 1875.

SANDERLING*Crocethia alba* (Pallas)

Often called 'beach bird' or 'beach plover', this is one of the most characteristic of the shorebirds on the sea coast. Scarcely any stretch of beach at the proper seasons is devoid of this bird. It is fond of running along the edges of the surf, back and forth, almost always active and conspicuous. About the size of the Red-backed Sandpiper, it is, in winter plumage, by its light color, easily distinguished from all the shorebirds that frequent the beaches, appearing very whitish because the upper parts are very pale gray, and

¹¹²Proc. La. Soc. Naturalists, for 1897-1899 (1900), p. 95.

the lower parts, including the sides, pure white. In summer plumage, which is often seen in the spring, the upper surface is variegated with black, brown, and rufous.

In flight it is rather strong and rapid, and it often gathers into small flocks, sometimes into larger ones, although much of the time it is seen singly, or at least the individuals along the shore have apparently little or no flocking intention.

The voice of the Sanderling is inconspicuous and consists of only a few soft, rather twittering notes. It is not nearly so noisy as many of the shorebirds. Only occasionally is its real song heard.

It breeds in the far north, chiefly in rather open country. The nest is placed on the ground and is merely a small depression lined with grass and leaves. The three or four eggs are buff or greenish, with markings of dark brown. It requires about 24 days for the young to hatch, and they are carefully looked after by the mother until they are able to look out for themselves. Sometimes the female will brood the young much as a domestic fowl.

The Sanderling is a common permanent resident, though rare in summer, along all the Gulf Coast beaches of Louisiana, from Breton Island to Grand Isle, Chenier au Tigre, and Cameron Parish. Though a few linger all summer, the species does not, of course, breed in the State.

H. H. Kopman saw four of these birds on June 30, 1903, at Cameron, and A. M. Bailey observed several during the first week in June on Breton Island. The writer noted two individuals at Grand Isle, June 9, 1933; and there is a specimen in the museum of the Louisiana Department of Conservation at New Orleans, taken at the same locality on June 25, 1933. Other specimens from this locality, collected, March 19, 1931, and April 11, 1931, are in the same museum. Another, secured on September 3, 1900, is in the museum of Tulane University; Winston E. Nolan obtained still another at Grand Isle, May 25, 1933; E. G. Wright, specimens, May 24 and 26, 1930; and George H. Lowery, Jr.,



BLACK-NECKED STILT (*Himantopus mexicanus*).
Merritt Island, Fla., May 17, 1934.
(Photograph by A. M. Bailey and F. R. Dickinson.)



YOUNG BLACK-NECKED STILT (*Himantopus mexicanus*).

Cameron Parish, La., June 6, 1930.

(Photograph by A. M. Bailey and F. R. Dickinson.)

one at Grand Isle on October 27, 1935. The writer observed at least 75 of these birds on the beach of the Gulf of Mexico just east of Mud Lake, in southern Cameron Parish, January 26, 1928. Vernon Bailey found the species common on the beaches of the Gulf of Mexico in Cameron Parish, January 6 to 13, 1926. Specimens were collected at Leedyburg in southwestern Cameron Parish by Arthur Svihla on January 2 and 3, 1926; and by S. Ward at Grand Terre on July 16, 1937.

Family RECURVIROSTRIDAE

AMERICAN AVOCET

Recurvirostra americana Gmelin

This bird, with its upturned bill, is one of the most conspicuous and easily distinguished of all the shorebirds. Its largely white plumage, with pale cinnamon head and neck, and largely black wings, long bill, and legs, make it stand out as one of the elite of its group.

It is found not only along the sea coast but also about the lakes, ponds, streams, and marshy flats of the interior of the United States. It is not a bird of the heavy grass-covered or reed-covered marsh, but frequents the open places and the level stretches wherever land and water conditions are favorable for either feeding or nesting. At times it gathers into flocks of large size, and then the black and white plumage, particularly in winter, imparts a spectacular appearance.

It is a noisy bird with a loud voice, unmusical, and rather monotonous, composed of a few short notes sharply uttered. The bird is not particularly wary and is thus without much difficulty studied. It has a rather strong flight, and when alighting raises its wings above the back and folds them down much like a Yellowlegs.

It feeds by wading in the shallows along the shore, moving forward and swinging the bill from side to side as it searches for food in the water. In water too deep for wading it easily swims. The food on which it lives con-

sists of mollusks; insects such as dragon flies, grasshoppers, beetles, weevils, flies, and their larvae; centipedes, crustaceans, and sometimes even small fishes, together with the seeds of marsh or other aquatic plants.

The American Avocet sometimes breeds in colonies, but often singly. The open flats or even the top of a dike or grassy flat is a suitable place for the nest. Sometimes this is concealed by proximity of a shrub, weed, or patch of grass. It is placed on the ground and composed of grasses, straws, small twigs, and weed-stalks, lined with finer materials and sometimes a few feathers. The usually four or five eggs are buff or olive buff, marked with conspicuous blotches and spots of dark brown and drab. The young, like many other shorebirds, are able to run about by themselves almost as soon as they are hatched, and they are expert at swimming and even diving. The mother is usually solicitous for her young, and will make use of all expedients to draw an enemy away from her brood.

The American Avocet is a rare transient in November and April, from Bayou La Barre and Cameron Parish, north to Mandeville, but it is apparently not recorded in northern Louisiana. It occurs chiefly in November, and it has been said to winter in the State, but there are no definite records for this season.

John James Audubon was the first person to record the visit of this bird to Louisiana, and he reported that one was noted on November 7, 1819, at Bayou St. John, near New Orleans, and also three individuals on April 16, 1837, at Isle Derniere.¹¹³ George E. Beyer reported having shot a single individual on November 12, 1889, on Bayou Saint John, near where Audubon obtained one of his birds.¹¹⁴ A specimen in the United States National Museum was collected on Johnson Bayou in Cameron Parish, November 26, 1882. Five others sent to the Smithsonian Institution were collected by G. Würdemann in the spring of 1854 at Calcasieu Pass. There are also at the present time spcci-

¹¹³Ornith. Biog., Vol. IV, 1838, pp. 171-172.

¹¹⁴Proc. La. Soc. Naturalists, for 1897-1899 (1900), p. 94.

mens in the museum of Tulane University, collected at New Orleans, November 10, 1875; Mandeville, November 3, 1873; and Bayou La Barre, November 4, 1888, all by Gustave Kohn.

BLACK-NECKED STILT

Himantopus mexicanus (Müller)

Conspicuous in its pure black upper parts, white lower surface, long bill and legs, the Black-necked Stilt is, like the Avocet, a distinguished personage. It frequents not only the flats and beaches of the coast, the more open marshes, meadows, and grain fields, particularly in irrigated areas, but also similar suitable places throughout the interior, as far north as the bird is found. It is largely a tropical species and does not breed regularly north of the United States, although it is found as far in the opposite direction as South America. As would be expected from its long legs this bird has a conspicuous appearance on the wing, and its flight is relatively slow. The notes of the Black-necked Stilt are few, but rather harsh and guttural or shrill, a few notes several times repeated.

The long legs enable it to be a successful wader, and in this way it seeks its food on the flats and shallow places. It feeds on various kinds of animal food, including insects, such as beetles, bugs, caddis flies, dragonflies, mosquito larvae, flies, and grasshoppers; together with snails, crawfishes, and the seeds of marsh and other aquatic plants.

The nest of this bird is sometimes in colonies, sometimes placed singly, usually in meadows or level stretches in the marshes, or in pastures, where the numerous cattle are apparently a menace to its safety. Sometimes the nest is situated along the edge of a pond, on a meadow hummock, along the shore, or on a dike. The material of the nest comprises various kinds of plants, sticks, and similar material, lined with grass, weed-stems, and even small twigs. The three to seven eggs are buff or dull light yellow, numerous spotted with dark brown or black and drab. Both parents aid in incubating the eggs and are

solicitous in the care of the young. The young grow rapidly but receive much attention from their parents, with whom they remain a rather unusually long time, even after they are able to take care of themselves.

The Black-necked Stilt is a rare permanent resident in southern Louisiana, from Grand Isle, Chenier au Tigre, the Rainey Wild Life Sanctuary, and Calcasieu Pass in Cameron Parish, north to southwestern Calcasieu Parish and New Orleans; apparently most numerous from April to October, and also of very much less frequent occurrence now than in former years. It breeds in Louisiana chiefly from May to June, and there are records of eggs from May 5 to June.

J. D. Figgins reported this bird as not common at Cameron Farm in Cameron Parish 14 miles south of Vinton, where two broods of young were discovered in late June of 1919. Eggs were sent to the Smithsonian Institution from Calcasieu Pass by G. Würdemann in 1854. A. M. Bailey found this bird common at Chenier au Tigre in the spring of 1917, 1918, and 1919; collected a specimen on April 12, 1919; and discovered nests and eggs on May 5, 1917, and May 11, 1918. The same observer found on June 3, 1930, in Cameron Parish three downy young which had just left the nest. George H. Lowery, Jr., found it common at Cameron on June 20, 1935. Andrew Allison reported the species at Diamond in Plaquemines Parish, March 29, 1899; H. H. Kopman at Savoie, April 14, 1918; at Junior in Plaquemines Parish, August 4 and 5, 1917; and New Orleans, March 19, 1916.

Specimens in the museum of Tulane University were taken at New Orleans in April, 1890, April 11, 1886, and May 18, 1890. C. C. Sperry collected this species at Chenier au Tigre, July 21, 1925; and E. R. Kalmbach at Cameron Farm in Cameron Parish, April 20, 1919. Specimens in the museum of Tulane University were obtained at Sabine Station in southwestern Calcasieu Parish, March 24 and 30, 1892; and two specimens sent by G. Würdemann to the Smithsonian Institution were collected at Calcasieu Pass in the spring of 1854. E. R. Kalmbach saw the Stilt

on the north shore of White Lake, May 6, 1925; and in the same year, he found it common in the rice fields near Gueydan on May 25, 28, and 30; June 3, 24, 25, 27, and 30; and July 2 and 11. W. L. McAtee reported one seen, December 1, 1910, at Grand Chenier. Vernon Bailey saw a few along the shore of the Gulf of Mexico in Cameron Parish, January 6 to 13, 1926.

Family PHALAROPODIDAE

WILSON PHALAROPE

Steganopus tricolor Vieillot

The Wilson Phalarope is apparently only a casual spring transient on the Gulf Coast of southern Louisiana.

George E. Beyer gives it¹¹⁵ as rather an unusual migrant in spring; and Stanley C. Arthur¹¹⁶ states that it is observed every spring at Grand Chenier; but there seems to be no more definite record for the State.

Family LARIDAE

AMERICAN HERRING GULL

Larus argentatus smithsonianus Coues

Most of the gulls and terns are of similar coloration, with various arrangements of the gray, black, and white which mostly clothe these birds. The present species is one of our largest gulls, and the one that is commonest and best known throughout the United States. It is something like two feet in length, with a white head, neck, under parts, and tail, light gray back and wings, the longest feathers mostly black. It is the common 'sea gull' to most persons, and is called also 'goeland du fleuve'.

While it is most abundant about the bays, inlets, and harbors of the coast, where it is found every winter, and sometimes in large numbers, as well as along the beaches and islands, it is also numerous in the interior about the

¹¹⁵Proc. La. Soc. Naturalists, for 1897-1899 (1900), p. 94.

¹¹⁶Bull. La. Dept. Cons., No. 5, 1918, p. 37.

various lakes and larger streams. It is a gregarious species and often is found in company with not only large numbers of its own kind but with other gulls, particularly the Ring-billed Gull and the Laughing Gull. It is a bird of rather ample wing spread and in flight is strong but not particularly swift, being, however, capable of long journeys.

Its breeding range is mostly in the northern part of the United States and Canada, but it moves southward over sometimes long distances to winter, going as far as southern Mexico. This bird is fond of the sea beaches and the beaches of the ocean inlets, and is frequently seen along the strand close to the edge of the surf, or resting anywhere on the beach. When alarmed it flies up, but usually returns after the cause of its disturbance has passed. Often the bird may be seen beating back and forth along the surf seeking food that may appear on the surface. Like other gulls it has the habit of following vessels, looking for any scrap of food that may be thrown overboard, and a flock can quickly be gathered by throwing over pieces of bread or anything else edible.

The notes of this bird are mostly loud, harsh, and varied, and in uttering them the bird sometimes, particularly when perching, goes through rather active contortions.

The food of the American Herring Gull consists of almost anything that the bird is able to find in its haunts. It lives on mussels, clams, and many other kinds of mollusks; crabs and other crustaceans; worms; and all sorts of fish refuse, dead fish of all kinds, small fishes; grubs, and various kinds of insects; occasionally small mammals; and even seeds and berries. Unfortunately this gull sometimes robs the nests of other birds and destroys both young and eggs. At times and in places this might result in considerable damage to other birds, particularly to such kinds as breed in colonies. Like many other birds this gull ejects through the mouth the indigestible portions of its food, such as fish bones, claws of crabs, and feathers. This gull has a habit not infrequently observed of obtain-

ing food from hard-shelled mollusks, like good-sized clams, which it is unable to crush or break with its beak. It carries the clams one at a time for a considerable distance into the air and drops them, either on the hard sand or rocks, sometimes on boards, to break them open. If not successful the first time, the operation is repeated.

This gull breeds usually in colonies, sometimes of large size, these situated usually not far from water. The nest is placed on the ground or on a rock, but occasionally in a tree. It is often not at all concealed, although sometimes hidden away under a bush or tree. It is a rather bulky structure, composed of weeds, sticks, grasses, and various kinds of vegetable matter, lined with moss, grass, or feathers. The eggs are usually three, occasionally two or four, and in color are exceedingly variable, from bluish, grayish, or buff, to drab, variously marked with dark browns and lilac. It requires about 26 days to hatch the eggs, and, sometimes at least, both parents take part in incubation. The young are soon able to run about for themselves, and are looked after by their parents for some time after hatching. The young for a time out of the nest are fed, at least in part, by regurgitation of food from the parents. The young, long before they are able to fly, can swim without difficulty. This bird, owing to the recent protection that has been given it, has in the United States greatly increased in numbers during the last 25 years.

The American Herring Gull is a common winter resident, chiefly from October to April, in southern Louisiana, from Chandeleur Island, the Mississippi River Delta, Grand Isle, Atchafalaya Bay, Chenier au Tigre, the Rainey Wild Life Sanctuary, and the coast of Cameron Parish, north to New Iberia, Abbeville, New Orleans, and also along the Mississippi River Valley to Newellton, Lake Providence, Oak Grove in West Carroll Parish, and to Shreveport, though most numerous in the Gulf Coast region; of casual occurrence in summer, though not breeding, on the Gulf Coast; and a transient, apparently not common, elsewhere in the State.

H. H. Kopman reported it on May 2, 1923, at Baton Rouge; George E. Beyer, on April 28, 1894, at New Orleans; and there is a specimen in the museum of the Louisiana Department of Conservation at New Orleans taken at Grand Isle about May 8, 1933. A banded bird was captured on Chandeleur Island on June 20, 1925. Specimens were collected by R. W. Shufeldt at New Orleans, January 27, 1883, and February 20, 1883; by Joseph Leiter at Chateau Canard, Main Pass, Mississippi River Delta, January 20, 1930; and a banded bird was captured at Newellton, December 25, 1926. S. H. Campbell saw a single bird at Oak Grove, December 23, 1934. On January 21, 1932, the writer found this species common on the Mississippi River from New Orleans to Pointe a la Hache; at the Delta Duck Club on Octave Pass in the delta of the Mississippi River, January 19, 1928; and numerous at the same locality, January 2, 1932. Over 200 individuals were seen at Pass a Loutre, December 17, 1932. It was seen also on Lake Barre, December 22, 1932; at Calcasieu Lake, December 31, 1932; and on the beach of the Gulf of Mexico, near Mud Lake in southwestern Cameron Parish, January 26, 1928. A. M. Bailey collected it at Chenier au Tigre on March 7, 1918. A bird banded at Kent's Island in the Bay of Fundy was killed at Shreveport on January 19, 1936.

As of interest in showing the migratory trend in the American Herring Gull, there are records of birds banded at Kent's Island, in the Bay of Fundy, and recovered at the following localities in Louisiana: Mississippi River, in St. James Parish, January 13, 1937; Vacherie, January 13, 1937; Morgan City, January 30, 1936; English Lookout, in the Mississippi River Delta, January 16, 1936; Pilot Town, January 3, 1936; Montegut, January 19, 1936; Olga, January 28, 1936; Saint Francisville, March 15, 1936; Onion Bayou, February 15, 1936; Orleans Parish, January 14 and 19, 1936; Longstreet, January 13, 1936; Hackberry, January 15, 1936; Shreveport, January 19, 1936; Golden Meadow, December 26, 1935; St. Gabriel, December—, 1935; and Grand Isle, December 26, 1935.

RING-BILLED GULL

Larus delawarensis Ord.

This gull is rather smaller than the American Herring Gull, but of the same pattern of coloration, the chief difference being that it has a black band across the middle of the bill, which, however, is not observable at any considerable distance.

It frequents about the same kinds of country as does the American Herring Gull, and is frequently associated in the same flocks. It is just as much of a lover of the interior of the country as of the coast, and is found in all sorts of places wherever there is sufficient water. Many persons do not distinguish it from the American Herring Gull, and both species go under the common name of 'sea gull'. Like the other species it is fond of gathering into large flocks, either alone or associated with the American Herring Gull. Its flight is rather lighter and more rapid than that of the bird just mentioned, and this with its small size will help in separating the two. Its voice is not as loud, or as harsh, as that of the large latter species, and the two birds may be identified also by this difference in their notes.

In its food habits it is probably one of our most beneficial gulls, since, particularly in the interior, it is fond of following the plow for the purpose of picking up the grubs and worms that are turned up, and the grasshoppers and other insects that are disturbed in the process. At times it eats considerable numbers of field mice and other destructive rodents. Like the American Herring Gull it is fond of garbage, and feeds to a considerable extent on refuse of this kind. Following the example of the other, unfortunately, it also does damage at times to the eggs of other birds, particularly in their colonies, but altogether it is not nearly as much of a menace in this respect. Fishes and other water animals form also a part of its diet.

The Ring-billed Gull nests in considerable colonies in the northern part of the United States and in Canada.

Sometimes such colonies consist entirely of nests of this species. At other times it breeds in company with other gulls, and even with cormorants and other water birds. The nests are placed on the ground, along the beach, or in crevices about rocks, under low bushes, or even in the open. The nest is made of all sorts of rubbish, weed-stalks, straws, grasses, and sticks, and lined with grass and sometimes feathers. The usually two or three eggs are of a buff or greenish ground color, with numerous markings of dark brown and drab. The period of incubation is about three weeks, and the young are able soon to run about and hide in the grass and among the rocks. The parents protect them and look after them until they are sufficiently able to fly and to provide themselves with food.

The Ring-billed Gull is an abundant winter resident, chiefly from October to April 28, throughout nearly all of Louisiana; reported from the Mississippi River Delta, Grand Isle, Lake Barre, Atchafalaya Bay, Marsh Island, Chenier au Tigre, the Rainey Wild Life Sanctuary, Grand Chenier, and Mud Lake in Cameron Parish, north to Lake Catherine, Lake Providence, Oak Grove in West Carroll Parish, and Monroe. It occurs on practically all bodies of water, but is less numerous in the interior of central and northern Louisiana than in the southern part of the State. It is of casual occurrence in summer, though not breeding, along the Gulf Coast, at least in southwestern Louisiana.

E. R. Kalmbach noted several individuals of this species at the mouth of the Mermentau River, June 17 and 18, 1925, and August 11 and 12, 1925. A specimen was taken by R. W. Shufeldt at New Orleans, February 8, 1883. The writer found it abundant along the Mississippi River all the way from New Orleans to Pilot Town on January 21, 1932; and in the delta of the Mississippi River, along Johnson Pass, and Pass a Loutre, December 17, 1932, and along Cognovich Pass on the following day. He observed it also on Bayou Boeuf and Bayou Black in Terrebonne Parish, near Houma, January 27, 1932; on Lake Salvador, January 26, 1932; on Atchafalaya Bay and East Cote Blanche Bay, Jan-

uary 29, 1932; Lake Barre, December 23, 1932; on Marsh Island, January 30, 1932; at Grand Chenier, December 31, 1932; abundant on the Gulf beach near Mud Lake in southwestern Cameron Parish, January 26, 1928; and at Calcasieu Lake, December 30 and 31, 1932. A specimen taken at Freshwater Bayou in Calcasieu Parish, January 13, 1894, is in the museum of Tulane University at New Orleans. George E. Beyer reported it at New Orleans on April 28, 1894, and S. H. Campbell saw two individuals at Oak Grove in West Carroll Parish, December 23, 1934. Individuals procured by A. M. Bailey came from Lake Borgne, March 22, 1917, Chenier au Tigre March 5, 1918, and Cameron Parish, February 6, 1916. Ambrose Daigre reported this gull common at Grand Isle from April 2 to 11, 1937.

LAUGHING GULL

Larus atricilla megalopterus Bruch¹¹⁷

This gull is readily distinguished from the two larger gulls, the Ring-billed Gull and the American Herring Gull, on account of its dark slaty head, in striking contrast to the white, gray, and black of the rest of its plumage. The only other Louisiana gull that is thus marked is the Bonaparte Gull in adult summer plumage. In winter, however, the Laughing Gull loses its slaty head and looks very much like the other large gulls. It is well named Laughing Gull, because its loud cry sounds very much like a hoarse laugh.

It is a bird almost exclusively of the coast region, being seldom at any time of the year found in the interior. In flight it is very much like the Ring-billed Gull, and like that gull often assembles into considerable flocks, either by itself or in company with other gulls.

Like the two other large gulls found commonly in Louisiana it has a varied diet. Small fishes form a considerable part of the food of this bird, as do also the various other kinds of water animals. It lives as well on earthworms and

¹¹⁷*Larus atricilla* of the 1931 edition of the A. O. U. Check-List.

various kinds of garbage. Sometimes it catches its own fish, but at other times it robs the pelicans or other birds that fish for themselves. Like the other larger gulls it is fond of following boats to pick up any scraps of food that may be tossed into the water. Occasionally it is known to eat the eggs of terns, but it does not seem to be so destructive in this respect as do some of the other large gulls.

This gull nests in colonies, sometimes of large size, usually on the islands or in the marshes of the coast region. The nest is placed in the grass, amidst other vegetation, or even in small bushes on rather dry flats. Ordinarily it is fairly well concealed by the surrounding vegetation. At times on the salt meadows the highest tides submerge the nests, but they are placed mostly on ground high enough to be safe. The nest is a rather bulky structure, sometimes, however, rather inconsequential, made of sedges, grasses, small pieces of sticks, rubbish of various kinds; and lined with grass and other finer vegetable materials. In some cases it is built up even above the tops of the low grass, and in others it is out in more or less exposed situations. The eggs are usually three, sometimes two or four, and are of the usual gull type, of a buff or pale buffy olive, with spots and blotches of various shades of dark brown and gray. It takes about three weeks for the young to hatch, and they stay in the nest for a short time, during which period they are fed by regurgitation by the parents. As soon as they are able to run around through the grass they secrete themselves, but are always carefully watched over by the parents. This parental care lasts until even after the birds are able to fly.

The Laughing Gull is an abundant permanent resident in the Gulf Coast region of southern Louisiana, chiefly in the marsh and sand beach areas, though apparently much less numerous in winter, from the Chandeleur Islands and the mouth of the Mississippi River, to Grand Isle, Timbalier Island, and Calcasieu Pass, and north to Calcasieu Lake, the Rainey Wild Life Sanctuary near Abbeville, New Iberia, Lake Pontchartrain, and The Rigolets, as well as casually

north to Columbia in northern Louisiana. It breeds only on the islands along the Gulf Coast; its breeding season extends from April to July, and there are records of eggs from April 8 to June 26.

A. C. Bent says that when he visited Battledore Island west of Breton Island on June 21, 1910, he found a colony of 5000 pairs of Laughing Gulls breeding there. On Isle au Pitre there were nearly 1000 birds of this species when the writer visited the island on June 3, 1933; and he found many nests containing one to four eggs along the shore banks and in the grass on the island. On the Mud Lumps at the mouth of Pass a Loutre he discovered 13 nests containing from two to three eggs each on June 7, 1933. On Isle Derniere over 700 birds were seen on June 22, 1933, and many nests containing one to three eggs were noticed on the muddy ground among the low black mangroves. Some of these nests were actually on the wet ground and others were on mounds in the middle of bushes. One dead nestling was noted.

The writer found this gull common along Main Pass in the Mississippi River Delta on June 7, 1933. E. R. Kalmbach obtained specimens on Hog Island, June 4, 1919, and on Freemason Island, June 7, 1919; A. M. Bailey at Chenier au Tigre, May 23, 1930, and May 10, 1918; E. G. Wright, at Breton Island on June 9 and 10, 1930; and E. V. Komarek, on Grand Gosier Island, June 9 and 10, 1930. The writer met with this species at The Rigolets, on Lake Pontchartrain, and along the Industrial Canal near New Orleans, June 2, 1933. H. H. Kopman reported the bird from Lake Catherine, April 4 to 5, 1918; and the writer noted it abundant on Timbalier Island, June 9, 1933. Two specimens, collected by G. Würdemann at Calcasieu Pass in the spring of 1854, were sent by him to the Smithsonian Institution. George E. Beyer reported the species near Columbia on the Ouachita River, August 22, 1896. At Grand Isle Ambrose Daigre and George H. Lowery, Jr., observed this gull frequently from April 5 to April 30, 1936.

In winter the writer observed this species, though it was not common, at several localities along the Gulf Coast of Louisiana. Three individuals were seen near Buras, January 23, 1932, and the same number at Pass a Loutre, December 17, 1932. Single individuals were noticed on Lake Barre and on Little Lake in Terrebonne Parish, December 23, 1932. A few were noted on the Rainey Wild Life Sanctuary, January 23, 1928, and on Vermilion Bay, January 29, 1932. A. M. Bailey reported a number at Chenier au Tigre between December 8 and 18, 1925; and the writer observed a single bird at Calcasieu Lake, December 30, 1932.

The North American Laughing Gull is apparently sub-specifically different from the birds of this species occupying the West Indies and southern Mexico, as has already been shown by G. K. Noble.¹¹⁸ The birds from the Bahamas, whence came the type of *Larus atricilla* Linnaeus, are like breeding birds from other parts of the West Indies and Yucatan, and are smaller than North American birds, but there apparently is no consistent difference in color. The name *Larus atricilla megalopterus* Bruch¹¹⁹ was supposedly based on specimens from Peru and Mexico, and has been applied to the North American race, which occurs in Mexico during migration. The writer has seen no specimens of the small West Indies race in Mexico, north of Yucatan.

FRANKLIN GULL

Larus pipixcan Wagler

The Franklin Gull is a rare winter resident, from late September to early April, in the Gulf Coast region of Louisiana, from the mouth of the Mississippi River and Cameron Parish, north to Bayou Black in Terrebonne Parish, Bayou Des Allemands, and Lake Pontchartrain. It is not recorded from either central or northern Louisiana.

George E. Beyer reports it as far east as the mouth of the Mississippi River, and E. S. Hopkins has noted it on Lake Pontchartrain in winter.

¹¹⁸Bull. Mus. Comp. Zoöl., Vol. LX, No. 10, August, 1916, p. 367.

¹¹⁹[*Larus*] *megalopterus* Bruch, (Bonaparte MS.), Journ. f. Ornith., Jahrg. III, No. 16, July, 1855, p. 287.

A specimen was long ago sent to the Smithsonian Institution by G. Würdemann, who took it at Calcasieu Pass in the spring of 1854. The writer has seen this species at the following localities: three individuals on Bayou Black in Terrebonne Parish, between Houma and the mouth of Bayou Chene on January 27, 1932; two at Larose, January 26, 1932; one on Bayou Des Allemands near Mud Lake, December 24, 1932; and two on Atchafalaya Bay, January 29, 1932. One was identified by T. Gilbert Pearson on the Rainey Wild Life Sanctuary in December, 1925.

BONAPARTE GULL

Larus philadelphia (Ord)

This, the smallest Louisiana gull, is readily distinguished by its diminutive size and its dark slate-colored or blackish head, though in other respects it resembles the other common gulls.

It is a bird of both the interior and the coast, being found frequently along the rivers and about the ponds and lakes, as well as the lagoons and inlets of the coast region. In flight it is lighter, more airy, and more tern-like than the larger gulls, and sometimes is mistaken for a tern. From all the latter that live in Louisiana, however, it may be easily separated by its rounded instead of forked tail. It gathers at times into flocks, although it is often seen singly flying up and down the rivers, about the shores, or over the bays. Although it seems to be not strong of wing it is capable of flying long distances, and it really has considerable power of flight. On the water it swims apparently as well as a duck, and although it usually remains on the surface to feed it is also well able to dive.

For food this beautiful gull depends largely on insects, particularly at seasons other than winter, largely the immature stages of such as moths, ants, and flies, but the flying adult insects are also taken, many of which are caught on the wing, as well as picked from the vegetation thrown up along the shore or drifting on the surface of

the water. Additional items of food consist of marine worms, crustaceans, and other small water animals.

This gull breeds in Canada, and is found in the United States chiefly in winter and during migration. Its nesting habits are somewhat unusual for a gull, since it breeds mostly in wooded areas and in trees, seldom, however, at a great height from the ground. The nest is composed of sticks, dry grass, weeds, moss, and pieces of turf, and lined with leaves and other smaller, finer materials than those of the outside. The eggs are normally three, of a buff or olive buff color with markings of brown and drab. The parents are very solicitous for their nest and young, and usually stage a demonstration when their home is approached.

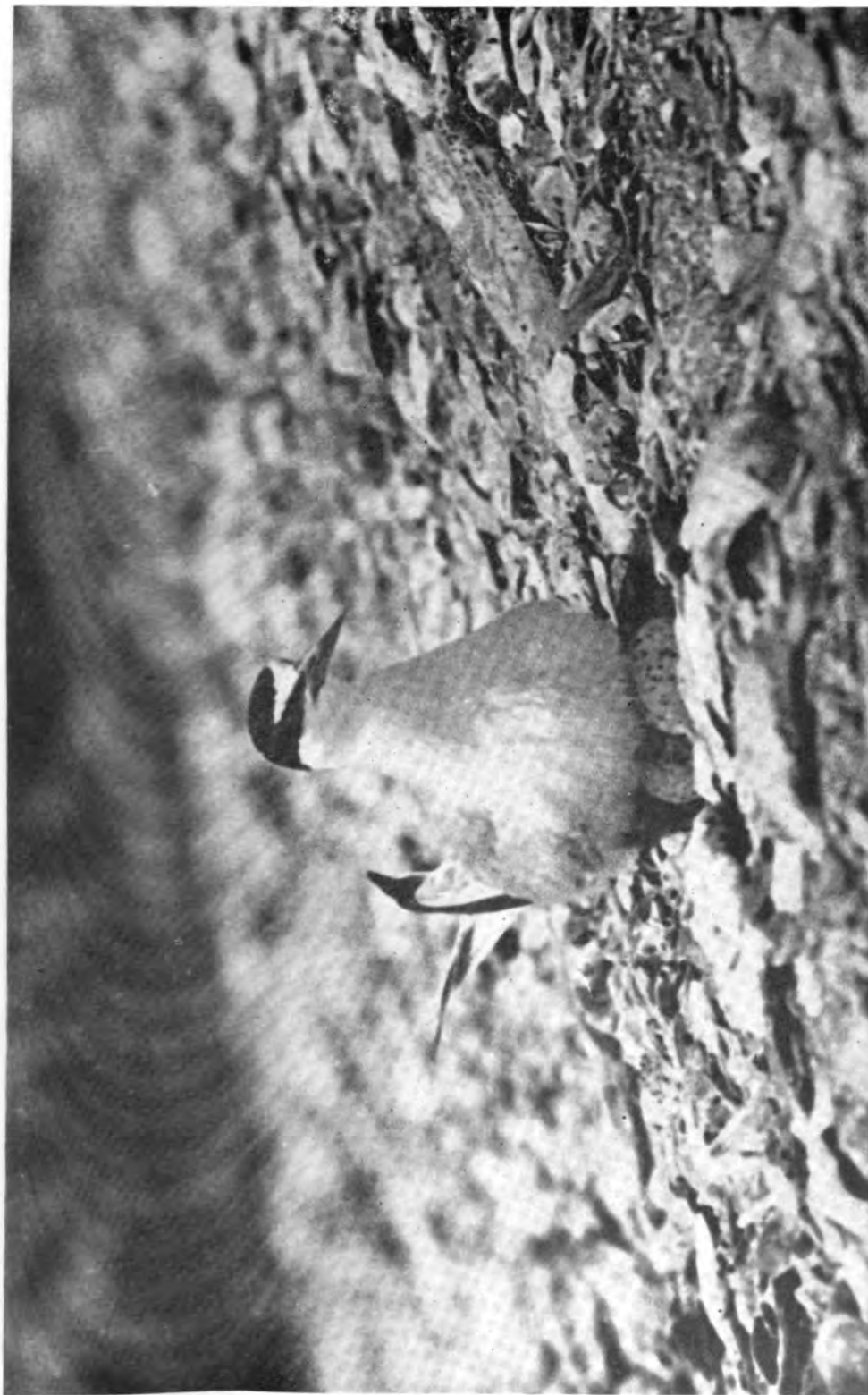
The Bonaparte Gull is a rather local, though fairly common, winter resident, from late September to the middle of April, in the Gulf Coast region of southern Louisiana, from Lake Catherine and the delta of the Mississippi River, west to Atchafalaya Bay, Chenier au Tigre and Calcasieu Lake; and north to the Rainey Wild Life Sanctuary near Abbeville, New Orleans, and Lake Pontchartrain. It is not recorded from northern Louisiana.

L. Kumlien in 1877 reported this species from Atchafalaya Bay in December.¹²⁰ The writer noted three individuals on Octave Pass and Gasper Pass in the delta of the Mississippi River, December 19, 1932; on the Rainey Wild Life Sanctuary, 27 individuals on January 23, 1928; and 32 on Calcasieu Lake, December 31, 1932. George E. Beyer saw this gull at New Orleans on March 25, 1894; and there are specimens in the museum of Tulane University, taken on Lake Pontchartrain in 1888, and on Lake Catherine, December 30, 1888. Ambrose Daigre noted this bird at Grand Isle on April 2, 1937, and 50 individuals there on April 2, 1937.

¹²⁰Field and Forest, Vol. II, 1877, p. 132.



LAUGHING GULL (*Larus atricilla megalopterus*) ON NEST.
Freemason Keys, La., June, 1919.
(Photograph by A. M. Bailey.)



LEAST TERN (*Sternula albifrons antillarum*) ON NEST.
Freemason Keys, La., June, 1919.
(Photograph by A. M. Bailey.)

GULL-BILLED TERN

Gelochelidon nilotica aranea (Wilson)

The Gull-billed Tern is a rare permanent resident along the Gulf Coast of southern Louisiana, from Breton Island and the mouth of the Mississippi River to Chenier au Tigre. There seems to be no authentic breeding record for the State, although this has several times been reported. Its wintering in the State, however, is now well proved.

A. M. Bailey collected specimens of this species at Chenier au Tigre, March 6, 1918, and January 21, 1919. A bird that had recently died was found at Chenier au Tigre by Wharton Huber on January 22, 1928. The writer observed 25 individuals at Southwest Pass on the Rainey Wild Life Sanctuary, January 23, 1928; nine on Lake Felicity, December 23, 1932; and 48 near Chateau Canard on Main Pass, December 19, 1932. E. S. Hopkins reported several seen at the west end of Marsh Island in February, 1930, and noted one on Grand Isle in March, 1931, although no specimens were collected at either locality. A specimen in the museum of Tulane University from Pelican Island, taken, July 4, 1875, has been recently examined. Fifty-two individuals of this species were seen at Breton Island on June 6, 1933.

WESTERN FORSTER TERN

Sterna forsteri forsteri Nuttall

This, the typical race of the Forster tern, is apparently of only casual occurrence in Louisiana.

The only certain record for the State is the individual that John J. Audubon collected along the Mississippi River opposite New Orleans in 1820, and described as a new species, *Sterna havelli*.¹²¹ This identification is obviously correct, from the large dimensions and dark color of the specimen as given by Audubon. The characters of the two races of this species are given below under the Eastern Forster Tern.

¹²¹ Birds Amer., folio edition, Vol. IV, 1838, pl. CCCIX, fig. 1.

EASTERN FORSTER TERN

Sterna forsteri litoricola Oberholser, new subspecies.

Subspecific characters.—Similar to *Sterna forsteri forsteri*, from Saskatchewan, Canada, but decidedly smaller, the gray of the upper parts, particularly that of the mantle, paler.

Measurements.—Average of ten males: wing, 250.8 mm.; tail, 168.6; exposed culmen, 40.1; tarsus, 24.0; middle toe without claw, 21.7.

Type.—Adult male, No. 212668, U. S. Nat. Mus.; Smith Island, Northampton County, Virginia, May 14, 1910; J. H. Riley, original number, 1575.

Geographic distribution.—Eastern United States, breeding along the Atlantic and Gulf coasts from Virginia to southern Texas. In winter it ranges also south to southern Mexico.

The Forster Tern was originally described from the Saskatchewan River, Saskatchewan, Canada, and the name *Sterna forsteri forsteri* thus applies to the interior race of the species. Audubon described a tern obtained by him on the Mississippi River opposite New Orleans as *Sterna havelli*,¹²² but this specimen turns out to be the same as the bird from Saskatchewan, that is, the typical race. This leaves the bird breeding on the Atlantic and Gulf coasts without a name. Its smaller size and paler coloration make it readily distinguishable from the interior bird.

Average measurements of males of *Sterna forsteri forsteri* are as follows: wing, 261.3 mm.; tail, 182.6; exposed culmen, 39.5; tarsus, 24.1; middle toe, 21.9.

The Forster Terns breeding on the Atlantic and Gulf of Mexico coasts of the United States from Virginia to Texas, are thus clearly not the same as those of the interior of the western United States and central southern Canada from southern Ontario and Illinois to Washington and California.

This tern is, in the wild, rather difficult to separate from the Common Tern, but in flight it may sometimes be

¹²² Birds of America, folio edition, Vol. IV, 1838. pl. CCCCIX fig. 1.

distinguished by its very white under surface, and its very harsh notes. It is, like most of the other terns, light gray above, white below, with a black cap, and strongly forked tail.

This form of the species is largely a coastal bird, although the western subspecies is found mostly in the interior of North America, about the ponds, lakes, and streams. Along the Atlantic and Gulf coasts the present bird occurs chiefly about the islands and the inlets, particularly during the breeding season. As have most of the other terns this one has a swift and airy flight. In fact it so closely, in this respect, resembles a gigantic swallow that it is commonly called 'sea swallow', which in Louisiana the French have translated into 'pigeon de mer'. At times it gathers into flocks of considerable size, and may be seen coursing about through the air over the marshes or beaches seeking its food. It is really much more of a marsh tern than many of the other species.

On the islands along the coast, where it chiefly breeds, it places its nest in the grass, usually on the drier parts of the marsh, but sometimes in the water. The nest itself is often a considerable heap, and at other times a very inconsequential structure. The materials used are grasses, sedges, reeds, rushes, and other marsh vegetation, and the hollow for the eggs, which is relatively small even when the bulk of the nest is considerable, is lined with finer grass and other available marsh vegetation. Occasionally, however, the bird builds on the sand with relatively little nesting material, this, small pieces of grass and bits of shell, or even lays the eggs on the bare sand or mud, with practically no attempt at nest building. The eggs are usually three, although more are sometimes found. They are buff or olivaceous, numerous marked with rather small dark spots and crooked lines. It takes about 23 days for the eggs to hatch, and the young remain in the nest for a while; but when they are able to leave they swim or run about the marsh, and easily hide from their enemies. The parents are rather unusually devoted to their young, and

care for them until they are entirely able to shift for themselves.

The Eastern Forster Tern is a common permanent resident on the islands, marshes, beaches, and coastal waters of southern Louisiana, from Chandeleur Island and Isle au Pitre, to the mouth of the Mississippi River, Grand Isle, and Cameron Parish; north to Mandeville, Bayou Des Allemands, Vermilion Bay, and Calcasieu Lake; a transient, not common, in the remainder of the State, noted north to Caddo Parish and the Ouachita River. It breeds only on the islands and marshes close to the Gulf of Mexico, from April to July; and there are records of eggs from April 24 to June 29.

E. S. Hopkins found eggs and young of this species on North Island in the Chandeleur group, June 29, 1931. The writer found 273 nests, most of them occupied, on Grassy Island in Lake Borgne, June 3, 1933; and 103 nests with from one to three eggs on the Mud Lumps at the mouth of Pass a Loutre, June 7, 1933. Some of the nests at this latter locality were entirely without nesting material, the eggs resting simply on the bare dry mud of the ground. E. R. Kalmbach found several small breeding colonies of this tern on Hog Island, June 4, 1919. The writer observed it on Chandeleur Island, Stake Island, and Curlew Island, in the Chandeleur group, June 5, 1933; at Isle au Pitre, June 3, 1933; on Brush Island in the Louisiana marsh in Saint Bernard Parish, June 4, 1933; at Shell Island, Plaquemines Parish, June 8, 1933; Grand Isle and Timbalier Island, June 9, 1933; and at Isle Derniere, June 22, 1933. A specimen sent long ago to the Smithsonian Institution by G. Würdemann was taken at Calcasieu Pass in the spring of 1854.

This species seems to be almost as common during the winter as in the summer months. The writer saw it at the Delta Duck Club on Octave Pass in the Mississippi River Delta, January 22, 1932; on the Pass a Loutre Hunting Preserve on the following day; and he noted it also on Mud Lake near Bayou Des Allemands, December 24, 1932; on Timbalier Bay, Deep Lake, Lake Barre, and Little Lake in

Terrebonne Parish, December 23, 1932; on West Cote Blanche Bay and Vermilion Bay, December 29, 1932. Four specimens collected by C. S. Galbraith at Mandeville and sent to the American Museum of Natural History, New York City, have been examined by the writer; as also a bird taken by E. S. Hopkins, at Lake Catherine May 21, 1896; and one by T. D. Burleigh at New Orleans, June 9, 1935.

COMMON TERN

Sterna hirundo hirundo Linnaeus

Of elegant build and trim lines like the Eastern Forster Tern, the Common Tern well deserves the name 'sea swallow', which it shares with many of the other terns. It is a bird of wide distribution, being found not only in North America but in Europe and Asia as well, and is well known in many parts of both the interior and the coast region. In size and color it is very much like the Eastern Forster Tern, and at times it is difficult to distinguish. In many places along the coast this bird was formerly astonishingly abundant, but for a long time the species was greatly reduced in numbers by the destruction that took place when its plumage was used for millinery purposes.

Though seen frequently in pairs and singly, it nevertheless at times gathers into companies of considerable size, and its evolutions on the wing under such circumstances present a beautiful sight. Particularly do these companies gather together at the breeding season at the colonies that these birds form for nesting purposes. The notes of this bird are sharp and harsh, and resemble at times a hoarse cackle.

Most of the food of the Common Tern consists of small fishes of various species, together with shrimps and other crustaceans, and insects, mostly aquatic. It is an interesting sight to watch a flock of these terns when hunting small fishes along the shore. Whenever a school of fishes comes along in the shallow water the terns congregate above them and sometimes a large number will be seen hovering and diving into the water, striking the fishes with

their bills and bearing them away into the air. Sometimes the terns strike the water with such force as to disappear entirely beneath the surface, and the activity of the birds is remarkable. From such behavior this tern has received the name 'striker', which it shares with most of the other smaller terns.

It is interesting to watch the courtship of this species. When on the beach the males approach the females and start their strutting for the purpose of attracting attention, stretching and walking about. With tail and bill uplifted the male strives to gain favor with the other sex, varying this strutting with flying away and bringing back a present in the form of a small fish. This action is frequently the culmination of the ceremony, when finally the female accepts the wedding present.

This tern breeds often on islands along the coast, on usually either dry rocky, grassy, or sandy areas, without much concealment except that furnished by the natural color of the eggs and the surroundings. The nest itself is usually a rather inconspicuous affair, being commonly a hole in the ground, lined with bits of rubbish, grass, straw, seaweed, shells, and similar materials. Sometimes these colonies are separate, but in other places the bird breeds in association with gulls, cormorants, and even pelicans. The three or four eggs are buff or olive buff, and variously marked with shades of dark brown and drab. Ordinarily but a single brood is reared each season, and it takes about three weeks for the young to hatch. The young are fed on small fishes, even shortly after hatching, and while they remain for a few days in the nest they continue later to receive the same attention until they are able to take care of themselves.

The Common Tern is an uncommon permanent resident in the Gulf Coast region of southern Louisiana, from the Mississippi River Delta, Grand Isle, and Mud Lake in Cameron Parish, north to Calcasieu Lake, Avoca Island, Mud Lake near Bayou Des Allemands, Lake Salvador, and Battle-

dore Island, but it is not recorded from the central or northern parts of the State. There is no known instance of its nesting in Louisiana.

The statement of the breeding of the Common Tern in Louisiana made by A. C. Bent,¹²³ who found 25 pairs of birds present, June 21, 1910, on Battledore Island in Plaquemines Parish, he now assures the writer was a mistake. A specimen in the museum of the Department of Agriculture of Louisiana in the State Capitol Building at Baton Rouge was collected by Winston E. Nolan at Grand Isle, May 30, 1933. Another in the museum of the Louisiana State University was obtained also at Grand Isle by George H. Lowery, Jr., on April 8, 1937.

Apparently this species is of more frequent occurrence in Louisiana in the winter than at any other season, since most of the records that we have are for the colder months. The writer noted it in the Mississippi River Delta at Codro Pass and along Cognovich Pass, both on the Pass a Loutre Hunting Preserve, December 18, 1932; and on Octave Pass and Gasper Pass, December 19, 1932. He also saw it at Pilot Town in the Mississippi River Delta, December 16, 1932; at Lake Felicity, December 23, 1932; Terrebonne Bayou, December 22, 1932; also on lower Vermilion Bay, January 29, 1932; near Intercoastal City, January 30, 1932; the Rainey Wild Life Sanctuary, January 23, 1928; Marsh Island, January 30, 1932; Calcasieu Lake, December 30, 1932; Mud Lake in southwestern Cameron Parish, January 26, 1928; Avoca Island, January 28, 1932; and Mud Lake near Des Allemands, December 24, 1932.

ROSEATE TERN

Sterna dougallii dougallii Montagu

The Roseate Tern is an accidental winter visitor to the Gulf Coast region of Louisiana. There is but one record, a single specimen taken in February, 1915, at Grand Chenier.¹²⁴

¹²³Bull. U. S. Nat. Mus., No. 113, August 27, 1921, p. 812.

¹²⁴Arthur, Bull. La. Dept. Cons., No. 5, 1918, p. 15.

EASTERN SOOTY TERN

Sterna fuscata fuscata Linnaeus

The Eastern Sooty Tern, a tropical species, is a rare summer resident on the islands along the coast of the Gulf of Mexico in southern Louisiana, east of the Mississippi River. It has been found breeding only in June. It is said to occur in winter but there is no definite record for the species at this season.

Alden H. Hadley saw a single bird of this species on Curlew Island in the Chandeleur group on July 3, 1931, and E. S. Hopkins subsequently published a record of the same individual.¹²⁵

One of the most interesting results of the writer's recent survey of the Louisiana coast islands and their bird life was the discovery on June 5, 1933, of two individuals of this species on Curlew Island. A nest with one egg was found on a ridge near the Gulf side of the island and on the edge of a colony of Black Skimmers and Caspian Terns. No nest material had been gathered and the egg was laid in a depression in the sand. One of the birds apparently attempted persistently to incubate the egg and, while sitting on the nest, was approached and to all appearances, made love to by the other bird. Both of the birds were very tame and allowed a near approach before they would leave the vicinity of the nest. Their actions, however, indicated that they strongly resented the human intrusion. Both birds were collected as they flew from the nest. Much to the writer's astonishment, careful dissection showed that both birds were females!

LEAST TERN

Sternula albifrons antillarum Lesson¹²⁶

This bird is appropriately named, since it is decidedly the smallest of all the terns that inhabit North America. It is only about nine inches long, and in coloration is almost a miniature of the Common Tern, except for its white forehead.

¹²⁵La. Cons. Review, Vol. II, No. 10, July, 1932, p. 19.

¹²⁶*Sterna antillarum antillarum* of the 1931 A. O. U. Check-List.

It lives not only along the sea coast, where it inhabits largely the islands, but it is found commonly along the larger streams, particularly the Mississippi River, where sand bars furnish suitable places for its nests. At times other than the breeding season it may be seen coursing along good-sized lakes or bayous, as well as along the rivers and about the beaches and islands of the coast region. At times it assembles into flocks of considerable size, particularly about its breeding grounds. Its flight is like the other terns, strong, swift, and bouyant, and a group of these birds coursing about over a body of water and uttering shrill cries every little while gives a delightful touch of life to the landscape.

Like many other terns it lives chiefly on fish, which it obtains by flying above the surface with bill pointed downward looking into the water for its prey. It darts downward and readily catches a fish if near the surface, from which habit it has acquired the name of 'little striker'. Most of the food consists of various kinds of small fishes, shrimps and other crustaceans, and various kinds of insects.

The Least Tern breeds preferably in colonies. The nests are situated usually on the open sandy beaches, where there is little or no vegetation. Notwithstanding the fact that there is little to afford concealment in such a habitat, the eggs themselves are so similar in general appearance to the pebbles and other debris of the beach that they are practically invisible. The nest is merely a depression in the ground, sometimes without any effort at nest building, sometimes with a slight lining of bits of shell or small pebbles. These nests occasionally are close together, particularly when the colony is large; but otherwise they are scattered over a wide area. One or two eggs are usually laid, which vary from buff to white, with spots of dark brown and gray. The young are very light in color and admirably match the surroundings of the nest in which they lie. Since they remain in the nest for several days this protection is of considerable importance.

This beautiful little tern is at the present time fortunately on the increase in the eastern United States, and is gradually reoccupying many of the areas from which it had been practically exterminated by the long and persistent prosecution of the birds because of the desirability of their plumage for the millinery trade, which destruction has, of course, now practically ceased. It is possible that the bird will continue to increase and to extend its present range.

The Least Tern is a permanent resident, common in summer, rare in winter, and breeds, along the Gulf Coast and on the islands of southern Louisiana, from Chandeleur Island and the Mud Lumps at the mouth of the Mississippi River, west to Calcasieu Lake; and a fairly common summer resident, breeding rarely, north probably to Bayou Sara. It breeds from May to July, and there are records of eggs from May 23 to June 26. The nesting places are often changed from year to year, as is the practice with some other species of terns and gulls on the Gulf Coast of Louisiana. The only winter records are from near the Gulf Coast.

Specimens of this species were taken, and about 75 nests discovered on Freemason Island by E. R. Kalmbach, June 7, 1919. A. M. Bailey reported the species breeding on the Mud Lumps at the mouth of the Mississippi River and on Tern Island; and E. G. Wright collected specimens at Breton Island, June 9, 1930. The writer saw some 240 birds on Timbalier Island on June 9, 1933, and found several nests. T. Gilbert Pearson reported about 100 nests on small islands in Calcasieu Lake, June 16, 1918; and J. J. Audubon recorded eggs about the middle of June at Bayou Sara.¹⁸⁷ The writer observed this species on Brush Island, Mitchell Island, and Freemason Island, June 4, 1933; on Half Moon Island in Lake Borgne, June 3, 1933; on Grassy Island in Lake Borgne, June 2, 1933; on Stake Island and Grand Gosier Island, June 5, 1933. A male in the Biological Survey was obtained by T. D. Burleigh at New Orleans, May 12, 1935. Other specimens examined were collected at Grand Isle by Ambrose Daigre, June 7 and 12, 1933; and

¹⁸⁷Ornith. Blog., Vol. IV, 1888, p. 175.

the writer noted the species at the same locality on June 9, 1933. It was observed by the writer also at Belle Pass Island east of Timbalier Island on June 9, 1933; and at Isle Derniere, June 22, 1933. E. R. Kalmbach noted the species on June 17, 1925, and August 11 and 12, 1925, at the mouth of the Mermentau River. He collected a single individual along the canal four miles south of Gueydan, August 26, 1925. George H. Lowery, Jr., says that it is common in spring and late summer near Baton Rouge.

Specimens in the museum of Tulane University were taken at New Orleans, August 8, 16, and 17, 1864; and others in the museum of the Louisiana State University were obtained at Grand Isle on June 13 and 28, 1937.

Stanley C. Arthur reports taking a single specimen of this species between February 6 and 8, 1915, on Marsh Island. The writer observed a flock of 60 individuals on the Rainey Wild Life Sanctuary, January 23, 1928. Two individuals were seen by the writer on Little Barataria Bayou, January 26, 1932; and one at the Delta Duck Club on Octave Pass in the Mississippi River Delta, January 22, 1932.

The American Least Tern is clearly but a subspecies of the European Little Tern, *Sternula albifrons*, which is the reason for the scientific name here used for the former.

BROWN TERN

Sternula albifrons browni (Mearns)¹²⁸

The Brown Tern is a fairly common summer resident in northern Louisiana; reported north to Tallulah, Monroe, Bienville Parish, and Caddo Lake; west to Caddo Lake, Taylortown, and Crichton; south to Natchitoches, Alexandria, and Frogmore; and east to Newellton and Thomas-town. It is also of accidental summer occurrence on the Gulf Coast of the southern part of the State.

A specimen of this supposedly altogether western subspecies of the Least Tern was taken by J. P. Parker at

¹²⁸*Sterna antillarum browni* of the 1931 A. O. U. Check-List.

Thomastown in Madison Parish on June 29, 1894, and has been examined in the present connection. It indicates, together with other examples taken outside the State, that the breeding form of the species in central and northern Louisiana is the Brown Tern. H. H. Kopman found it fairly common from July 13 to 28, 1896, along a slough on a plantation at Thomastown. George E. Beyer reported it along a slough near Tallulah in July. Ambrose Daigre says that, though rare, it nests at Alexandria. George H. Lowery, Jr., states that it is common at Monroe during August. The writer observed a few individuals at Frogmore, and a single one at Newellton on June 16, 1933; one at Natchitoches, June 19, 1933; two at Taylortown and one at Crichton, both on June 18, 1933; and 27 on the Louisiana end of Caddo Lake also on June 18, 1933. J. S. Campbell reports it from Bienville Parish as a summer and autumn visitor, not uncommon.

A single female of the year was captured on Breton Island, June 9, 1930, by E. G. Wright, and is now in the collection of the Chicago Academy of Sciences. Its presence at this locality at this time indicates that it was a bird that had prematurely wandered south from its northern breeding ground, or had delayed its northward migration.

ROYAL TERN

Thalasseus maximus maximus (Boddaert)

The two largest terns that occur in Louisiana are the Royal Tern and the Caspian Tern, both of which are chiefly inhabitants of the coast region. The Royal Tern is but slightly smaller than the other, and is of the same general coloration, light gray above, white below, with blackish ends of the wings, and a black crown which ends in a well-marked crest. By this it may be distinguished from the Caspian Tern, the black cap of which is not particularly crested; also the tail of the Royal Tern is deeply forked, whereas that of the Caspian Tern is only slightly so.

It is confined almost entirely to the coast region, where along the islands and bars it breeds, and where about the

inlets, lagoons, and other bodies of water, it seeks its food. Its flight is strong and swift, and capable of being long sustained. It is a southern bird and does not extend far northward along the Atlantic coast, at the present time mostly only as far north as Virginia. At its breeding grounds it often assembles into great flocks, but at other times it is more frequently seen singly or in small companies. The ordinary note of this tern is, while not so loud as that of the Caspian Tern, a sharp, rather harsh, cry, something like 'quak' or 'cac'. The beaches and islands are greatly enlivened by the presence of this attractive bird.

Its food consists chiefly of small fishes, which it obtains by diving into the water as do the other terns, the characteristic procedure being to fly along leisurely at some distance above the surface of the water, then when a fish is spied near the surface the bird hovers to make good its aim and dives head foremost into the water, spearing the fish with its bill. Other food consists of crabs, shrimps, and other crustaceans.

In regions where this bird is numerous it breeds in colonies of at times several thousand pairs. The single egg is laid on the strand with no effort at construction of a nest. Sometimes these colonies are made up entirely of this species, and at other times it is in company with Cabot Terns, with which it seems to be particularly friendly, or with Caspian or other kinds; sometimes even a few Laughing Gulls also associate with it in such colonies. While this tern is not extraordinarily shy, the incubating birds leave their nests at the approach of any intruder and fly up in clouds with vociferous protests against the disturbance. The birds will not, however, return until the occasion of the disturbance has disappeared. The egg is white or very pale buff, marked with dark brown or black and gray in well distributed spots. The young vary greatly in color, but notwithstanding this they are very well protected when on the beach, since their tints blend well into the sand and gravel-covered areas.

The Royal Tern is an abundant permanent resident, much less numerous, however, in winter, throughout the Gulf Coast region of southern Louisiana, from Chandeleur Island and Isle au Pitre to the delta of the Mississippi River, Grand Isle, Shell Keys south of Marsh Island, and to Cameron Parish; north to Vermilion River, Lake Maurepas, and The Rigolets. It is not recorded from central or northern Louisiana. It is apparently much less numerous than formerly. Although it wanders farther inland during the winter, it breeds only on the islands along the Gulf Coast, from May to July; and there are records of eggs from May 9 to July. It frequently changes the location of its breeding colonies, as do other terns. In these colonies it associates commonly with the Cabot Tern.

A. C. Bent reported some 3500 nests of this species on Grand Gosier Island, June 18, 1910, but during the summer of 1933 the writer found not one breeding on this island. On North Island the writer observed 600 birds on June 4, 1933, and all of these apparently represented nests with eggs. On Errol Island of the Chandeleur Group he found 13 separate colonies ranging from 40 to 2100 nests containing eggs, the parents all sitting, June 5, 1933. Between 10,000 and 11,000 birds were seen on this island, and these belonged to about 8400 nests. This island harbored the largest population of this species of any locality on the Louisiana coast in 1933. On the Mud Lumps at the mouth of Pass a Loutre 550 nests were found on June 7, 1933. E. S. Hopkins reported the finding of eggs and young on North Island, June 29, 1931; and Richard Gordon reported 700 nesting on the Shell Keys south of Marsh Island, May 27, 1930, seeing between 200 and 250 young there, June 25, 1931. Eggs in the museum of Tulane University were taken at Racoon Pass in Timbalier Bay, May 19, 1894. The writer observed the species at many localities along the Gulf Coast during the summer of 1933, among which are the following: The Rigolets, June 2; Grassy Island and Half Moon Island in Lake Borgne, Isle au Pitre, and Sundown Island, June 3; Brush Island and Martin Island, June 4; Stake Island, Curlew Island, Grand Gosier Island, and Breton Island, June 5;

Bird Island southwest of Breton Island, June 6; Shell Island in Plaquemines Parish, June 8; Grand Isle, East Timbalier Island, and Timbalier Island, June 9; and Isle Derniere, June 22. E. R. Kalmbach found the Royal Tern common at the mouth of the Mermentau River, July 17 and August 11, 1925, and birds were taken at this locality. E. V. Komarek obtained examples on Breton Island, June 10, 1930; and on Brush Island, June 10 and 13, 1930. A specimen collected by G. Würdemann at Calcasieu Pass in the spring of 1854 was sent to the Smithsonian Institution.

Specimens were secured also at Buras, February 3, 1896, by G. K. Cherrie; Errol Island, June 8, 1918; Saint Bernard Parish, August 11, 1918; Battledore Island, August 4 and 5, 1917; Grand Pass, June 8, 1919; all by A. M. Bailey; Freemason Island, June 7, 1918, by F. C. Lincoln; and Errol Island, June 6, 1919, by Peter Hudson.

The writer observed this tern at the Delta Duck Club on Octave Pass, January 22, 1932; on Bayou La Fourche, January 26, 1932; Little Lake, Lake Barre, Lake Felicity, and Deep Lake in Terrebonne Parish, December 23, 1932; lower Vermilion River and Intercoastal City, January 30, 1932; five individuals on the Rainey Wild Life Sanctuary, January 23, 1928; and a single bird on Little Baratavia Bayou, January 26, 1932. A specimen collected by C. S. Galbraith during the winter of 1891 at Mandeville was sent to the American Museum of Natural History.

CABOT TERN

Thalasseus sandvicensis acuflavidus (Cabot)

This tern is almost as large as the Royal Tern, and in general appearance very much like that bird. It may be distinguished readily, however, by its black, yellow-tipped bill instead of the red color that is characteristic of both the Royal Tern and Caspian Tern. In general habits it is likewise similar to the Royal Tern, being, like that species, a bird of southern distribution. It is, however, not as com-

mon in the United States as is the Royal Tern, and apparently is more easily disturbed, for which reason it is not so adaptable.

The Cabot Tern lives chiefly along the islands and bars of the coast region and is rarely ever seen in the interior. Its flight is much like that of the Royal Tern, swift and strong. It has a loud, harsh call, which has been described by the syllable 'cree' several times repeated.

It lives on various kinds of small fishes, which it obtains in the same manner as do most of the other terns; but its diet includes at times also shrimps and squids.

In nesting habits it is very much like the Royal Tern, and commonly places its nest on the islands along the coast, often in company with Royal Terns, Black Skimmers, Caspian Terns, and even Laughing Gulls. The eggs are usually two, sometimes one or three, and vary in color from pink to buff, with various markings of dark brown and lavender gray. Apparently both parents assist in the incubation, which takes about 21 days.

The Cabot Tern is a common, locally abundant, permanent resident, not nearly so numerous during the winter, and strictly confined to the beaches and islands of the coast of the Gulf of Mexico in southern Louisiana, from Chandeleur Island and Isle au Pitre to the Mississippi River Delta, Grand Isle, and Racoon Pass, apparently not recorded from farther west, and observed chiefly east of the Mississippi River. It breeds often in colonies with the Royal Tern, only on the islands of the Gulf Coast, from May to July; and there are records of eggs from May 10 to June 29.

A. C. Bent noted it breeding commonly on Grand Gosier Island on June 18, 1910, but the writer found not a single breeding pair on this island during his visit on June 5, 1933, although nearly 1000 birds were there on the beach. The largest population of this species that the writer found breeding in 1933 was on Errol Island, where the birds were nesting in colonies of the Royal Tern on June 5, 1933, at which time they were apparently incubating eggs. On this date about 1880 birds were seen, representing the same



CASPIAN TERN (*Hydroprogne caspia imperator*).
Freemason Keys, La., June, 1919.
(Photograph by A. M. Bailey.)



WINGS OVER THE GULF: BLACK SKIMMERS (*Rynchops nigra nigra*).
Freemason Keys, La.
(Photograph by A. M. Bailey.)

number of nests with eggs. On the Mud Lumps at the mouth of Pass a Loutre, June 7, 1933, there were found 25 nests with one egg each in the colony of Royal Terns, but no birds were seen, as these nests had been evidently abandoned, possibly on account of floods. Eggs in the collection of Donald R. Dickey were taken at Raccoon Pass, Timbalier Bay, May 28, 1895. Stanley C. Arthur saw many Cabot Terns at Isle au Pitre, June 7, 1918. The writer observed this tern on Chandeleur Island, June 4, 1933; on Curlew Island, June 5, 1933; and noted 445 birds on Breton Island, June 6, 1933, but apparently none breeding.

W. M. Sprinkle reported this species common on Mitchell Island, January 19, February 14 and 28, 1911; on Battledore Island, February 16, 1911; and on Grand Gosier Island, January 16, 1911. E. V. Komarek collected specimens on Brush Island, June 10 and 11, 1930; A. M. Bailey on Battledore Island, June 7 and 9, 1918, also on Errol Island, June 8, 1918; and George H. Lowery, Jr., at Grand Isle, March 29, 1936.

CASPIAN TERN

Hydroprogne caspia imperator (Coues)

This is the largest of our North American terns, and in general is very similar to the Royal Tern, from which it is distinguishable as indicated under that bird.

It is of wide distribution, being found throughout much of North America as far north as central Canada and also in Europe and Asia. In North America its breeding localities are often far separated and many suitable localities are never used. It frequents not only the marshes, bays, islands, and beaches of the coast, but also the various bodies of water in the vast interior of North America. In flight it is strong and relatively swift, but it is more gull-like in appearance on the wing than most of the other terns. Ordinarily it does not gather into such large flocks as do some of the other terns, perhaps because its numbers are in general not so large as are those of birds like the Royal Tern and some of the others.

Its note is very different from that of the Royal Tern and has been represented by the syllable 'kraa' or 'ca-arr'. It is a low pitched, harsh call, which once recognized is distinctive.

Like many of the other terns this bird lives chiefly on small fishes, which it obtains as do the other terns by diving from the air. It eats sometimes also mussels, shrimps, and other smaller aquatic animals. It has been accused of eating the eggs and young of other birds, but this does not seem to be a regular or common habit.

It breeds singly or in small colonies, often in company with other terns and gulls, even associated also with cormorants and pelicans. Occasionally the Caspian Tern assembles into a large colony for breeding purposes, but such gatherings are not numerous in North America. Usually this bird breeds on low sandy islands, and the nests are placed on the ground with little or no concealment other than that afforded by driftwood and scattered rubbish. The nest varies from a hole scratched in the sand, with scarcely any lining, to a structure that is of considerable conspicuousness, made up of sticks, straws, various kinds of rubbish and vegetation, lined with finer materials, including bits of shells and small pebbles, and occasionally a few feathers. The eggs are usually two, occasionally more, and are of various buffy shades with markings of dark brown and tints of lilac gray. It takes about three weeks to hatch the young, and both parents assist in this. The young birds, like many of the terns, are so much like the strand, or the nest on which they rest, that they are thus very well hidden from enemies.

The Caspian Tern is a fairly common permanent resident in the Gulf Coast region of southern Louisiana, from Chandeleur Island, and Grassy Island in Lake Borgne, to the mouth of the Mississippi River, Grand Isle, and Calcasieu Lake; north in the interior to Lockport, Houma, and Des Allemands; probably also a transient, at least rarely, though not recorded, in central and northern Louisiana. It breeds from May to July, chiefly east of the Mississippi

River, on the islands along the Gulf Coast: on North Island, Mitchell Island, Freemason Island, Grassy Island, Battledore Island, Errol, Grand Gosier, Breton, and Curlew islands, Mud Lumps, Raccoon Pass, Timbalier and other islands. There are records of eggs from May 5 to July 3. Like so many of the terns inhabiting the Louisiana coast, it frequently changes its breeding colonies from one island to another, and there is no certainty of finding a colony on the same island two years in succession.

Specimens collected are: Lake Borgne, March 22, 1917; Errol Island, July 6, 1919; Mud Lumps, at the mouth of the Mississippi River, March 5 and June 12, 1918; Chenier au Tigre, March 5 and 7, 1918; Isle Derniere, December 7, 1918, all by A. M. Bailey; Freemason Island, June 6 and 7, 1919, by F. C. Lincoln; Buras, January 31, February 2 and 3, 1896, by G. K. Cherrie.

A. C. Bent found 40 pairs breeding on June 18, 1910, on Grand Gosier Island; but in 1933 the writer noted not a single bird nesting on this island. E. R. Kalmbach discovered a colony of 36 nests on one of the Mud Lumps at the mouth of Pass a Loutre, June 3, 1919; and other nests on Errol Island and Freemason Island, June 5 to 7 of the same year. The writer saw only a single pair about the Mud Lumps on June 7, 1933, and apparently this pair was breeding in the colony of Royal Terns, although the nest was not actually found. A single nest containing two eggs was noticed on Breton Island, June 5, 1933, and seemingly this was the entire population of this species on that island; but on Curlew Island the writer discovered 25 nests containing from one to three eggs on June 5, 1933, adjacent to a small colony of the Black Skimmer. Eggs in the collection of the museum of Tulane University were taken at Raccoon Pass, May 19, 1894; and A. M. Bailey found the species nesting at Timbalier Island on June 14, 1918. The writer saw the Caspian Tern at the following localities along the Gulf Coast of this State in the summer of 1933: Grassy Island in Lake Borgne, June 2; Chandeleur Island and Freemason Island, June 4; Stake Island and Grand Gosier Island

in the Chandeleur group, June 5; Bird Island, southwest of Breton Island, June 6; Ronquille Bay, June 8; Barataria Bay, June 10; Grand Isle and Cheniere Caminada, June 9; and Isle Derniere, June 22.

He observed the species also at the Delta Duck Club on Octave Pass in the Mississippi River Delta, January 19, 1928; and during the winter of 1932 at the following localities in the Mississippi River Delta, where it was apparently common at that time: Octave Pass, Gasper Pass, and Main Pass, December 19; Johnson Pass and Dennis Pass, December 17; Cognovich Pass, December 18; and Willow Pass, December 20. It was noted also at Lake Felicity, Lake Barre, and Drum Lake (Lake Tambour), December 23, 1932; on West Cote Blanche Bay, January 29, 1932; on the Rainey Wild Life Sanctuary, January 23, 1928; at Grand Chenier and Calcasieu Lake, December 31, 1932.

BLACK TERN

Chlidonias nigra surinamensis (Gmelin)

With the exception of the Least Tern this bird is the smallest of all our North American terns. Its name is well chosen because the general plumage of the adult in spring is, except the back, wings, and tail, dull black; but in winter it is white below like the immature bird.

This bird breeds only in the northern United States and in Canada, but it migrates to southern South America. In the breeding season it is found about sloughs, ponds, lakes, and similar bodies of water in the interior; and in winter it frequents also the coast region. At times it is to be found a considerable distance out at sea, sometimes in company there with other terns. Its flight is strong and graceful, and on the wing it very much resembles the Least Tern. Occasionally it is found in flocks of considerable size, but more often in scattered groups or single individuals. At times when it flies about over the marshes or the waters of the shallow lakes, it resembles very surprisingly a huge butterfly. Its ordinary note is a rather sharp metallic 'krik', rapidly and frequently uttered.

This bird lives largely on insects, such as moths, flies, grasshoppers, beetles, crickets, and dragonflies, which it catches on the wing, but its diet includes also mollusks, crawfishes, water scorpions, and small fishes.

The nest of the Black Tern is placed in the sloughs, marshes, wet meadows, and similar places in the interior. It is situated usually on the ground or on the low matted vegetation, among the grass and other growing plants, sometimes in a thick growth of canes or reeds, and sometimes in more open places in the sloughs, occasionally on an old muskrat nest. The structure is ordinarily not very elaborate, being composed of pieces of marsh vegetation, such as reeds, grass, and other rubbish. Sometimes the nest has a more or less solid foundation, which probably the bird had not constructed itself, but had appropriated for the purpose. Sometimes also the nest is a rather bulky structure, a pile of floating or anchored rubbish, but usually it is well concealed. The eggs are usually three, and of a pale brown or buff color, heavily marked with various shades of dark brown. It requires about two and one-half weeks for the eggs to hatch; and the young remain for several days in the nest until they are able to swim about among the reeds.

This bird is one of the most demonstrative of all the inhabitants of the marsh whenever its nest or young are approached, screaming and flying down excitedly toward the intruder, keeping up this demonstration until he is well out of sight. As a matter of fact the extraordinary activity of the birds on such occasions does more to draw attention to the nest and young than it does good in frightening away anyone or any enemy that might approach.

The Black Tern is a common summer resident, but not breeding, from May 9 to October 5, from East Lake in Saint Bernard Parish, the Mississippi River Delta, Grand Isle, the Rainey Wild Life Sanctuary, Isle Derniere, and Calcasieu Pass in Cameron Parish, north to Gueydan, Bayou Des Allemands, Lake Catouatche, New Orleans, Chef Menteur, and

Chandeleur Island; also a transient, but of less frequent occurrence, in central and northern Louisiana, reported north to Monroe, Shreveport, and Gayle; and accidental in winter in southern Louisiana.

W. M. Sprinkle reported it numerous on Errol Island, July 27, 1913; and on Chandeleur Island on July 28 of the same year. A C. Bent saw thousands roosting on the beach of Grand Gosier Island on June 18, 1910; and the writer found a small number on the same island, June 5, 1933. H. H. Kopman noted it fairly common at Phoenix in Plaquemines Parish, September 12 and 15, 1917; and at Carlisle in the same vicinity, October 4 and 5, 1917. The writer saw seven of these birds at Shell Island in Plaquemines Parish, June 8, 1933; and he has seen specimens in the museum of the State Department of Agriculture in the State Capitol at Baton Rouge, from Grand Isle, taken, May 17, 1933, June 10, 1933, and September 6, 1900. He noticed a single bird at Isle Derniere on June 22, 1933; and identified specimens taken at Crowley by W. A. Douglas on May 12 and 24, 1933. This tern was also collected by G. Würdemann at Calcasieu Pass in the spring of 1854; and by E. R. Kalmbach at Gueydan, July 3, 1925, and Chef Menteur, May 22, 1919. The latter observer saw about 150 individuals around a freshwater pond near the last mentioned locality, May 22 and 23, 1919. He obtained examples at Lake Catherine, May 23, 1919. Specimens in the museum of Tulane University were taken at New Orleans, August 18, 19, and 20, 1888, and September 2, 1888; and at Greenville near New Orleans, August 22, 1888. H. H. Kopman reported the species on Lake Catouatche, June 26, 1917; on Bayou Des Allemands, June 19, 1917; and at New Orleans, July 19, 1911.

Although the Black Tern has several times been reported as occurring in Louisiana during the winter, the writer has been able to find but one definite record; that of a single bird seen by him on the Pass a Loutre Hunting Preserve in the Mississippi River Delta on January 23, 1932.

NODDY TERN

Anous stolidus stolidus (Linnaeus)

The Noddy Tern is of only casual appearance in Louisiana.

It is reported by several authors to occur on the Louisiana Gulf Coast, but the only definite record so far as locality is concerned is that it has visited Chandeleur and Timbalier Islands.¹²⁰ It is said to breed in Louisiana, but this the writer has not been able to verify.

Family RYNCHOPIDAE

BLACK SKIMMER

Rynchops nigra nigra Linnaeus

The very long wings, long narrow bill, black upper parts, and white lower surface easily distinguish this bird from almost all the inhabitants of the shore. In addition to this, it has a rather deliberate winnowing flight, which together with its habit of flying slowly along near the surface of the water, and dipping its bill in as it flies, is added help in determining its identity. This habit of dipping its bill in the water as it flies has earned it the name 'shearwater', by which it is known in many localities. It is called by the French in Louisiana 'bec à ciseaux'. It is further interesting as the only North American bird in which the lower half of the bill is much longer than the upper.

The Black Skimmer is a bird of the coast, and is almost never found away from the beach and the inlets in the neighborhood of the sea or the Gulf of Mexico. It is another southern species which does not range far north on the Atlantic Coast, at the present day not regularly north of New Jersey. At times it assembles into flocks of large size, particularly after the breeding season, and when one of these flocks alights on the beach of an island or sand bar, and the birds arrange themselves together they resemble nothing so much as a miniature platoon of sol-

¹²⁰Beyer, Allison, and Kopman, *The Auk*, Vol. XXIV, No. 3, July, 1907, p. 315.

diers, their black upper parts strikingly contrasted with the white of the under surface. The bird is exceedingly graceful on the wing, and seems to have little difficulty in flying close to the surface of the water without touching the water with its wings. It is fully as graceful as the terns.

The note of this bird is a deep, hoarse 'cac, cac, cac', and is very distinctive.

This bird feeds largely on small fishes, shrimps and other crustaceans. These it obtains by flying along the surface of the water and picking up from the surface or just below it the available items of its bill of fare.

It breeds largely on the islands along the coast, usually on sandy stretches, high enough to escape the effects of the tide. Like many of the other shorebirds it depends for nesting concealment or protection on the color of the eggs and young, which are difficult to see on the ground among scattered pieces of shells, pebbles, driftwood, and scant vegetation. The nest is merely a hollow scratched out in the sand, apparently without any attempt at the placing of a lining. Sometimes colonies of many hundred birds may be found in a place, but at other times single nests. While the Black Skimmer breeds often by itself, it is not averse to associating with gulls, terns, and herons in close proximity. Four or five eggs are usually laid, and these are buff, marked with various shades of brown in the form of spots and blotches, usually rather heavily. Apparently only the female takes part in the incubation duty, and only one brood is reared. It is one of the latest of the beach birds to breed.

The Black Skimmer is an abundant permanent resident, although less numerous during the winter, along the Gulf Coast islands and beaches of southern Louisiana, from the Chandeleur Islands and Isle au Pitre, to the delta of the Mississippi River, Grand Isle, Timbalier Island, and the coast of Cameron Parish. It is rarely if ever seen inland, and is not recorded from central or northern Louisiana. It

breeds on the islands and beaches of the coast from May to August; and there are records of eggs from May 26 to July 27.

The writer found this species to the number of 692 on Isle au Pitre east of Grand Pass, June 3, 1933. It was breeding on the shell banks along the shores of the island and was apparently just beginning to lay, as he saw many new empty nests as well as some others containing from one to four eggs. The species was numerous also and nesting on Brush Island in Saint Bernard Parish, June 4, 1933, and on Mitchell Island on the same day. W. M. Sprinkle reported the species abundant on Martin Island, July 26, 1910, and many nests with young there on the fifteenth of that month; also 200 nests, containing from two to four eggs on June 10, 1911, on the same island; and many nests with young, July 4, 1916, on Freemason Island; on which last mentioned island the writer met with the species nesting in small numbers, June 4, 1933. The writer noticed the species breeding on Stake Island, June 5, 1933, and found some 30 nests on Curlew Island on the same day, none of which contained more than two eggs. W. M. Sprinkle reported young beginning to fly on Chandeleur Island, August 8, 1913. On Breton Island on June 6, 1933, the writer found over 1600 birds and several hundred nests, most of them on the south end of the island, but only a few of them at that time containing eggs, although apparently the laying season was at its height.

Specimens of the Black Skimmer were obtained by E. R. Kalmbach on Breton Island, June 4, 1919, and on Hog Island on the same day; by E. V. Komarek on Brush Island, June 11, 1930, and Grand Gosier Island, June 10, 1930; and by E. R. Pike, at Pilot Town, November 4, 1930. The writer noted the species on Bird Island, southwest of Breton Island, June 6, 1933; and on Main Pass in the Mississippi River Delta, June 7, 1933. On the Mud Lumps at the mouth of Pass a Loutre in the Mississippi River Delta, ten nests were seen, only one of which, however, contained an egg, the rest being empty, indicating that the birds at this point on June 7, 1933, had apparently just begun to lay. On Belle Pass

Island, east of Timbalier Island, the writer noted the species on June 9, 1933; and found it breeding abundantly on Timbalier Island on the same day, where a great many nests containing eggs were observed. On Isle Derniere, June 22, 1933, a few birds were seen and a single nest containing two eggs was discovered. E. R. Kalmbach reported the species common at the mouth of the Mermentau River, June 17 to 18, 1925, and noted a flock of six birds on August 12, 1925, on the Mermentau River near its mouth. Specimens were collected by G. Würdemann at Calcasieu Pass during the spring of 1854, and sent by him to the Smithsonian Institution. Other birds were collected on Breton Sound, May 13, 1917; Battledore Island, August 4, 1917; Chenier au Tigre, December 11, 1935; all by A. M. Bailey. Ambrose Daigre observed approximately 1,000 at Grand Isle, April 6, 1937.

On Martin Island, December 4, 1910, and on Battledore Island, December 19, 1910, W. M. Sprinkle reported the species abundant. The writer found it also in good numbers on the Delta Duck Club property on Octave Pass in the Mississippi River Delta, January 19, 1928; on Willow Pass, December 20, 1932; on Dead Woman Pass, December 18, 1932; at Chateau Canard on Main Pass, December 19, 1932; on Cognovich Pass in the Mississippi River Delta December 18, 1932. A. M. Bailey found it numerous on Isle Derniere, December 8, 1918; and the writer observed a number of individuals on the Rainey Wild Life Sanctuary, January 23, 1928.

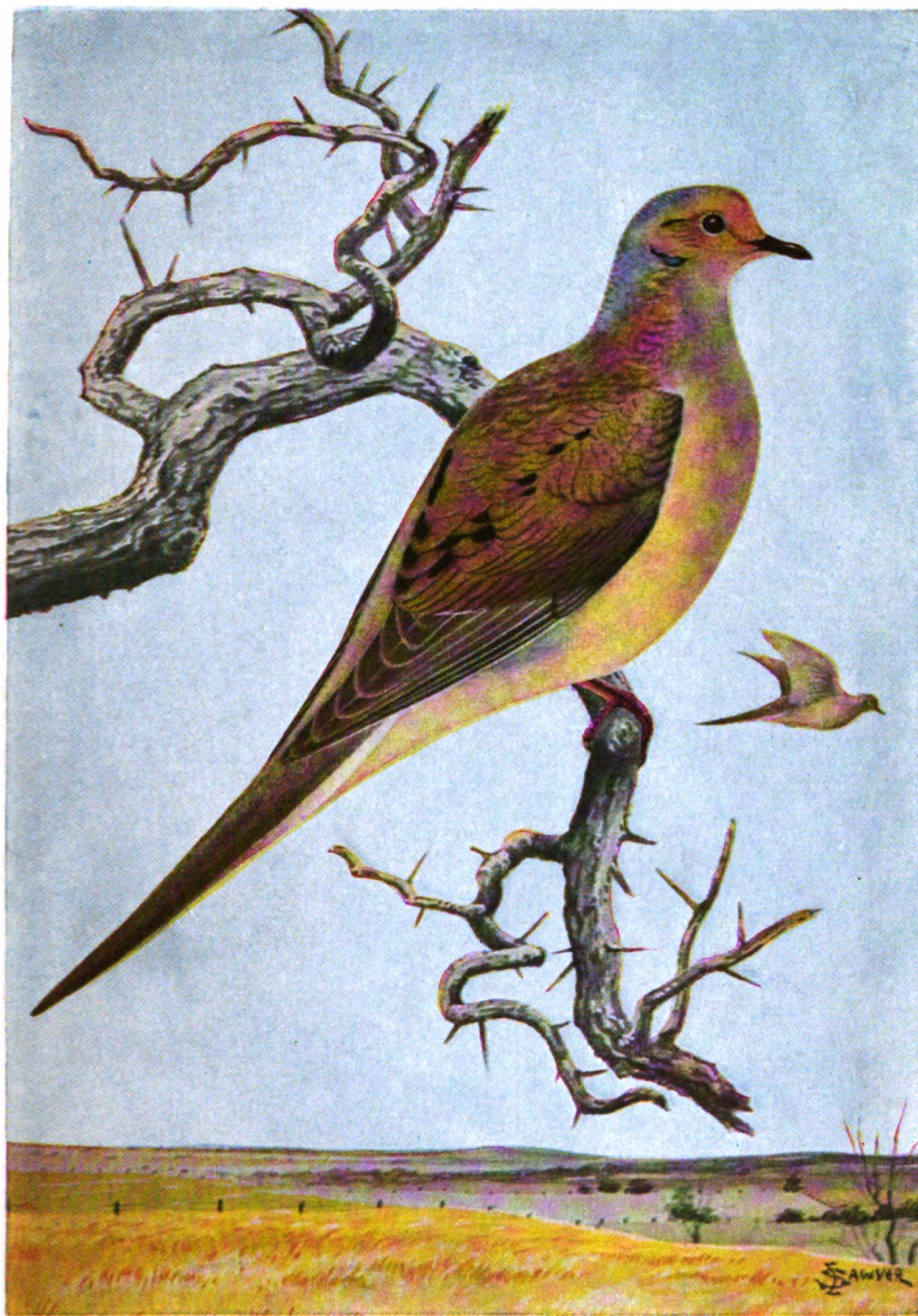
Order COLUMBIFORMES

Family COLUMBIDAE

ROCK DOVE

Columba livia livia Gmelin

The domestic pigeon, derived as it has been from the Rock Dove, is, in some parts of Louisiana, as in many other states, virtually a wild bird, although it is not so extensively such in this State of the Union. It has, however, been found living in a wild condition from New Orleans and Lake Charles, north to Shreveport.



(Courtesy of the National Association of Audubon Societies.)

THE EASTERN MOURNING DOVE

Zenaidura macroura carolinensis (Linnaeus)

This lovely bird is held in high regard in Louisiana as a game species. The Passenger Pigeon, once so abundant in Louisiana and now completely extinct, was closely related to the Mourning Dove. Mourning Doves have a wide range, breeding from the Gulf Coast to Canada.

In the city of New Orleans and vicinity the domestic pigeon has been thoroughly naturalized and lives entirely independent of man's support in so far as dove cotes and direct feeding are concerned. It was observed there by the writer from July 10 to 13, 1936; and H. H. Kopman states that it has been living there in this manner for at least 40 years to his personal knowledge. Mrs. H. H. Kopman says that the domestic pigeon, in former years, was and probably at the present time is supporting itself about Lake Charles. H. H. Kopman also reports it as nesting about the eaves of buildings and other suitable places in Shreveport, just as freely as if it had never been domesticated. On the other hand, Robert Butler at Bains, John S. Campbell at Gibsland, and George H. Lowery, Jr., at Monroe, state that according to their experience this pigeon lives in those localities only in dove cotes and thus not under feral conditions. William H. Gates reported under date of October 6, 1936, that it lives in an independent state also at Baton Rouge.

EASTERN MOURNING DOVE

Zenaidura macroura carolinensis (Linnaeus)

The present bird, often called 'turtle dove', is the only member of the pigeon family, except, of course, the domestic pigeon, that is common in Louisiana. It is about a foot long, with a rather slender neck and long pointed tail. Its generally brownish gray, bluish gray, or purplish gray plumage is rather distinctive.

The Mourning Dove lives in more or less open country, and apparently is not fond of the deep woods, but almost everywhere else it is to be found, even in the more open woodland, in orchards, and in cultivated areas of all kinds. In flight it is swift and strong, with powerful wing-beats, and at times reminds one of a small hawk. It is commonly seen in trees or bushes, but it often comes down to the ground for feeding purposes. Its voice is a plaintive one, something like 'coo-ah, coo, coo'.

The food of this bird is almost entirely vegetable, but notwithstanding this it does practically no damage to

domestic crops. It feeds, it is true, to a considerable extent on waste grain in fields of buckwheat, rye, wheat, and corn, but consumes also large quantities of weed seeds; in fact, the number of small seeds that this bird consumes is almost incredible. In a single stomach as many as 9,200 seeds of weeds have been found. In addition to this it eats other seeds, berries, small acorns, and beechnuts.

Some of the mating performances of this dove are interesting. In seeking to win its mate a bird will sometimes fly high up into the air and return, gliding about until almost near the ground and then return to a point near the place of starting. At times the male strikes his feet, one after the other, on the perch, puffs out his feathers, and otherwise performs antics for the benefit of the female that he wishes to influence. Once mated, the birds remain so, usually at least for the season, even though more than one brood is reared, and the pair are very affectionate. The male not only assists in incubation and the care of the young, but he even brings material for the nest.

The nest is built in almost any suitable part of the countryside, usually in low trees or bushes, and in almost any conceivable place, even on the ground or in the cavity of a tree. Ordinarily the nest is not over 20 feet from the ground, but sometimes it is placed as high as 50 feet. Often nests of such birds as the Mockingbird or Robin are appropriated as a foundation. Materials of which use is made include weed-stalks, straws, grasses, and sometimes leaves or mosses, scarcely lined with somewhat finer materials. The nest is often so frail that when built in a tree or bush the eggs can be seen from below. Nearly always the nests are single, and there does not seem to be much tendency toward colonization. The eggs are usually two in number, pure white, and elliptical in shape. Usually about 13 days are required for hatching, and the young are so helpless that they must be carefully nurtured until they are able to leave the nest. For the first part of the life of the young they are fed by the adults with food which is predigested in the crop of the parent. This is a milk-like substance, which

has given rise to the expression, 'pigeon's milk'. Two or more broods are usually reared, and in the south the breeding season continues until September or even October. When the adult incubating or brooding bird is frightened from the nest she is often exceedingly solicitous, dropping to the ground and imitating a bird with a broken wing in her attempt to lure the intruder away.

The Eastern Mourning Dove is a common permanent resident throughout Louisiana, more numerous, however, during the winter from October to February. It has been reported north to Lake Providence, Oak Grove in West Carroll Parish, Mer Rouge, Monroe, Lucky, Bienville, and Bossier Parish; west to Caddo Lake, Cross Lake, Natchitoches, Hagewood, Many, Pickering, Rosepine, Longville, Vinton, Black Bayou in Cameron Parish, and Calcasieu Lake; south to Calcasieu Pass, Chenier au Tigre, and the Mississippi River Delta; and east to Slidell, Pearl River, Jena, Trout, Waterproof, and Tallulah. It breeds chiefly from February to October; and there are records of eggs from March 30 to August 10.

The eastern subspecies of the Mourning Dove is apparently the breeding bird of most if not all of Louisiana, as specimens from the following localities examined in the present connection indicate: Alexandria, October 22, 1933, Ambrose Daigre; Sauve in Jefferson Parish, March 2, 1890, George E. Beyer; Sauve, January 15, 1888, and December 18, 1887; Minden, July 31, 1934, George H. Lowery, Jr.; and Bienville, July 18, 1933, J. S. Campbell. Eggs in the United States National Museum were taken at Grand Coteau, June 6, 1887. At Mer Rouge, Vernon Bailey reported a few individuals between June 2 and 7, 1892; and the writer noted the species at the following localities in 1933, on the dates indicated: Caddo Lake, June 18; Cross Lake west of Shreveport on the same date; Natchitoches, Hagewood, Many, Pickering, Rosepine, and Longville, June 19; and Vinton, June 20. He observed it also on Calcasieu Lake, December 30, 1932. A specimen was taken by G. Würdemann at Calcasieu Pass in 1854, and forwarded by him to

the Smithsonian Institution. The writer noted a Mourning Dove near the Pass a Loutre Hunting Preserve in the Mississippi River Delta on January 23, 1932; and A. H. Howell found it fairly common at Slidell in Saint Tammany Parish, October 28 to November 1, 1908. The writer saw it at Pearl River, June 27, 1933; at Jena, Trout, and Waterproof, June 16, 1933; and E. R. Kalmbach reported it common at Tallulah from June 13 to July 13, 1924. J. S. Campbell discovered a nest near Lucky in Bienville Parish, April 16, 1934. A pair of birds at Bienville was using an old nest of the Southern Robin, instead of constructing one of its own.

The Eastern Mourning Dove is apparently also the common winter race of the species in Louisiana, as is shown not only by the specimens above mentioned but also by birds banded in Illinois and recovered in Louisiana.¹⁸⁰ Such birds provide the following records: Lake Charles, November 6, 1926; Midland, November 27, 1924; Iberia Beach, November 24, 1927; Vermilion Parish, November 16, 1926; Morgan City, November 15, 1926; Catara, December 22, 1924; Mandeville, January 13, 1926; New Roads, November 8, 1923; Ridge, November 8, 1927; and Bellerose, January 26, 1928.

WESTERN MOURNING DOVE

Zenaidura macroura marginella (Woodhouse)

The Western Mourning Dove is a rare winter visitor to southeastern Louisiana. It may be of more frequent occurrence than is indicated by the specimens examined, since in the field it is not distinguishable from the eastern race.

The writer has examined specimens from the following localities: Sauve, Jefferson Parish, one collected on February 2, 1890, and two on March 2, 1890, by George E. Beyer, and now in the museum of Tulane University. Another specimen taken at Westwego by Winston E. Nolan, but without indication of date, is in the museum of the Louisiana Department of Conservation at New Orleans. A bird banded at Fairdale, North Dakota, was killed at Crowley, Louisiana, on December 12, 1931.

¹⁸⁰Taber, Wilson Bulletin, Vol. XLII, No. 1, March, 1930, pp. 26-27.

PASSENGER PIGEON

Ectopistes canadensis (Linnaeus)¹²¹

The story of the Passenger Pigeon is another example of the result of lack of protection for wild birds. Once so numerous that the birds darkened the sky for days, it was thought to be entirely safe from any danger of extinction; but continued hunting for market, and particularly the destruction of the birds on their breeding grounds, finally brought about the complete disappearance of the species.

In general appearance the Passenger Pigeon resembles very much the Mourning Dove, although it is larger, with a greater extent of wings, ruddier breast and somewhat more grayish general coloration, and lacks the black spot on the side of the head that is present in the male Mourning Dove.

This bird lived in both open country and in woodlands, and moved in vast flocks, either on migration or in search of feeding places. It was a bird of strong, powerful flight, much like the Mourning Dove, and could travel long distances with little or no inconvenience. In enormous numbers it resorted to roosts at times other than the nesting season, and this very fact made it more vulnerable to hunters. Not only was the bird pursued for game, but the destruction of the forests that produced the mast on which it so largely lived was a factor in its ultimate destruction. Acorns, beechnuts, and similar food constituted the chief diet of this bird, although it consumed seeds and berries of various kinds as well.

It bred in forests, either on uplands or lowlands, and in almost any kind of tree, although apparently it preferred deciduous trees. The nests were almost always in large colonies, sometimes of almost unbelievable extent, and each tree usually harbored a considerable number of nests. The nest itself was a rather loose structure of twigs with little or no lining, and placed sometimes as high as 50 feet from the ground. There was normally only one egg, white, and simi-

¹²¹*Ectopistes migratorius* of the 1931 A. O. U. Check-List.

lar to that of the Mourning Dove. Both parents assisted in incubation, and there were at least two broods reared during the season.

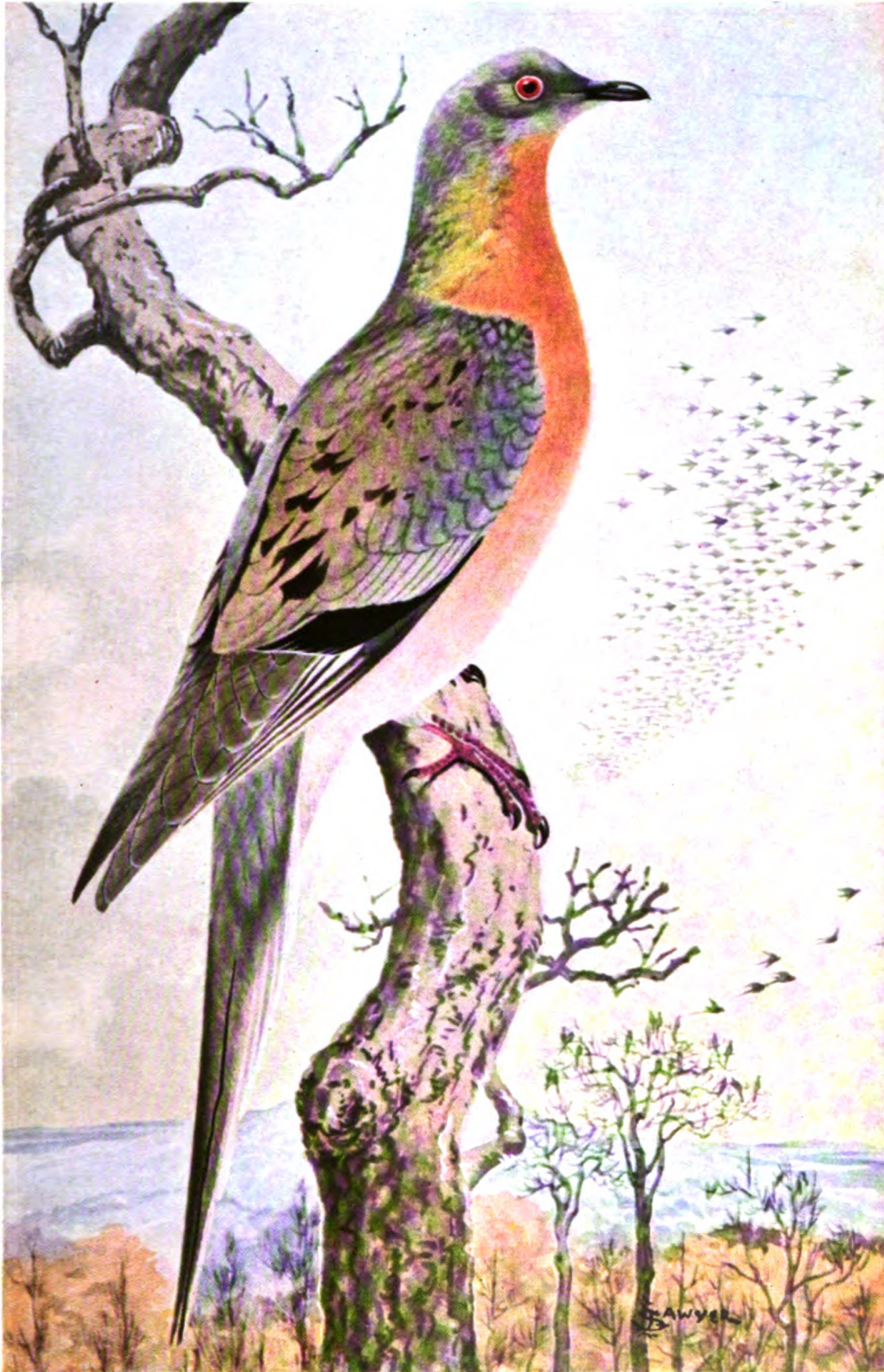
For many years the Passenger Pigeon has been extinct, the last known individual having died in the Cincinnati Zoological Park on September 1, 1914. Frequently, however, there are reports of the discovery of living birds, but whenever these have been investigated they have been found to relate either to the Mourning Dove or to the Band-tailed Pigeon, a Rocky Mountain and Pacific Coast species. There is now little hope that even a single individual of this beautiful and interesting species ever will be found alive.

The Passenger Pigeon was formerly an abundant winter visitor, at least from November to February, in most of Louisiana, even the southern portion, and recorded south to Rayne and Mandeville; but it is now, of course, extinct in the State, as elsewhere.

The earliest record of this interesting bird for Louisiana was by the historian Le Page du Pratz, who found it abundant along the Mississippi River about 1758. John J. Audubon¹²² records that it was abundant in Louisiana in 1826. Ambrose Daigre states that this pigeon was reported to be numerous about 1850 near Pineville. There are at the present time specimens in the museum of Tulane University, collected at Rayne, January 16, 1888, by George E. Beyer; and at Covington, November 23, 1874, and December 5, 1874. The bird from Rayne is one of three obtained then by Prof. Beyer, who saw several large flocks there in 1888. Edward Butler states that he saw the species in the parish of West Feliciana in 1891. Robert Butler writes that Mrs. Eugene Ellis and a companion killed one bird near Bains sometime during the autumn of 1895; and this is probably the last individual actually taken in Louisiana. Two others were obtained at Mandeville by J. H. Lamb, from a flock of five birds on January 26, 1895,¹²³ which are seemingly the same individuals previously reported as having been cap-

¹²²Ornith. Biog., Vol. I, 1831, p. 325.

¹²³Forbush, Hist. Game Birds, Wild-Fowl, and Shore Birds Mass., 1912, p. 461.



Painting by E. J. Sawyer

(Courtesy of the National Association of Audubon Societies)

THE PASSENGER PIGEON
Ectopistes migratorius (Linnæus)

A bird whose amazing numbers once provided the most spectacular sight in all American wild life, the Passenger Pigeon is now extinct. This disappearance of a species whose vast flocks once darkened the sky remains still mysterious, but undoubtedly man's greedy and ruthless destruction of these lovely birds contributed heavily to their extinction. The Passenger Pigeon thus stands as a trenchant warning of the great need for conservation.

tured at the same place, in February, 1895.¹³⁴ Apparently the latest report of the species in the State is by the well-known hunters, B. V. Lilly and I. H. Alford of Prairie Mer Rouge, who informed Ned Hollister in 1904 that up to the winter of 1903 to 1904 they had seen a few wild pigeons each winter. Mr. Lilly said that during the winter of 1902 to 1903 he saw about 40 or 50 birds, although none was seen in the winter of 1903 to 1904.

The proper name for this species should be *Ectopistes canadensis*, since Linnaeus described the Passenger Pigeon as *Columba canadensis*¹³⁵ on a page prior to that on which his *Columba migratoria* appeared. Since the basis of this name is undoubtedly our Passenger Pigeon, and since the name has anteriority, there is no reason for not using it, as has been done in similar cases of the names of many other species. For further discussion of this name, see Science, N. S., Vol. XLVIII, No. 1244, November 1, 1918, p. 445.

EASTERN WHITE-WINGED DOVE

Melopelia asiatica asiatica (Linnaeus)

The Eastern White-winged Dove is a casual visitor in the Gulf Coast region in southwestern and central southern Louisiana, east to Grand Isle, and north to Schriever in Terrebonne Parish, Saint Martinville, and Crowley.

The earliest State occurrences of which the writer can find any record are given by George E. Beyer,¹³⁶ and were specimens taken at Grand Isle in May, 1894, and August, 1895. The species was recently obtained at the same locality by George H. Lowery, Jr., and Ambrose Daigre on April 12, 1936. It has been recorded from New Iberia, Saint Martinville, Crowley, and Schriever,¹³⁷ and by J. W. Trahan from Vermilion Bay, April 29, 1919. One of a pair was taken by Gus Smith at Venice in the Mississippi River Delta about November 20, 1910.¹³⁸

¹³⁴Beyer, Allison, and Kopman. The Auk, Vol XXV, No. 4, October, 1908, p. 440.

¹³⁵Syst. Nat., ed. 12. Vol. I, 1766 (after May 24), p. 284.

¹³⁶Proc. La. Soc. Naturalists, for 1897-1899 (1900), p. 98.

¹³⁷Bull. La. Dept. Cons., No. 20, December, 1931, p. 882.

¹³⁸McAtee, The Auk, Vol. XXVIII, No. 2, March 29, 1911, p. 274.

EASTERN GROUND DOVE

Columbigallina passerina passerina (Linnaeus)

The Eastern Ground Dove is a very rare permanent resident in southern Louisiana, from Grand Chenier and Grand Isle north to Bains, Saint Francisville, and Monroe.

A specimen taken at New Orleans during the winter of 1889 is in the museum of Tulane University and has been examined in the present connection. Specimens were obtained by George H. Lowery, Jr., at Monroe, January 10, 1937, and at Bains, January 30, 1937; by Winston E. Nolan at Attis, January 3, 1937, and at Bogalusa, a male and a female, January 3, 1937. George H. Lowery, Jr., reported it also from Thibodaux, January 31, 1937, and states that he considered it rather common during the winter of 1936 and 1937, about 12 to 15 miles south of Baton Rouge. Ambrose Daigre observed it on Grand Isle, April 12, 1937. George H. Lowery, Jr., collected one bird near Saint Francisville on November 11, 1934; and J. E. Younger one at Baton Rouge on March 15, 1937. George H. Lowery, Jr., saw one individual near Grand Chenier about January 1, 1938. Stanley C. Arthur reported its occurrence on the State Wild Life Refuge on the west side of Vermilion Bay during the winter of 1915, but gave no more definite date. So far as the writer has been able to discover there are no other specific records for the species in Louisiana.

INCA DOVE

Scardafella inca inca (Lesson)

The Inca Dove is of entirely accidental occurrence in Louisiana. A single specimen was collected by Joseph Daigre, near Alexandria, on December 28, 1935;¹³⁹ and John P. Everett saw one at Farmerville on November 19, 1936.

¹³⁹Ambrose Daigre, La. Cons. Review, Vol. V, No. 2, April, 1936, p. 27.

Order PSITTACIFORMES**Family PSITTACIDAE****LOUISIANA PARAKEET***Conuropsis carolinensis ludoviciana* (Gmelin)

The Louisiana Parakeet, which is but a subspecies of the Carolina Parakeet, represents the only parrot to be found in the eastern United States. It has long since been extinct, due probably to its destruction by man. It formerly occurred in the Mississippi Valley, as far north as Wisconsin, and as far west as Oklahoma and Nebraska. It was a bird of small size, about 12 or 13 inches long, bright green, with a yellow head and neck, set off by an orange-colored forehead.

It lived in the woods, particularly the heavily forested bottomlands of the streams, whence it sometimes wandered out into more open country. Its flight was strong and swift, but more or less undulating. It moved often in flocks of large size, but also in small companies, foraging for food or adventure. The note was a shrill, harsh cry, which it uttered frequently, and while flying the bird was particularly noisy. At night it roosted in hollow trees, in which it suspended itself by hooking its beak and claws into the side of the cavity.

Its favorite food was the seeds of the cocklebur, and when this food was not available it made use of nuts of various kinds, such as pecans and beechnuts, and also the seeds of the cypress, pawpaw, sycamore, pine, and thistle, and those of weeds like the sandbur. It was not averse to berries and wild fruits such as grapes and mulberries. It was also fond of cultivated fruits of various kinds, and grains like corn, which led to trouble with man, and caused a great deal of destruction, on account of the damage that the bird might do to fruit in the orchard. Unfortunately when one was wounded the rest of the flock would come back until practically all were destroyed.

Little is known regarding the breeding of this bird. The nest was probably placed in hollow trees, with little or

no lining. The eggs were white, with a bare yellowish tinge. It is unfortunate that this, a most interesting and in many respects a unique bird, was allowed to be entirely exterminated. Perhaps, however, some individuals of its close relative, the Carolina Parakeet still remain alive.

The Louisiana Parakeet was formerly a common permanent resident in southern and northern Louisiana, from Saint Mary Parish and New Orleans to Claiborne and Webster parishes. It is now extinct in the State, as probably elsewhere, and there is no certain record for Louisiana since about 1900.

It was from the description by the early writer on Louisiana, Du Pratz, that Gmelin first described the Louisiana Parakeet, and named it after the country in which it had been found.¹⁴⁰

It is interesting to note that eggs taken in Saint Mary Parish in March, 1878, were recorded by Bendire.¹⁴¹ F. W. Langdon recorded flocks of two or three dozen individuals in September, 1880, at Cinclare Plantation in West Baton Rouge Parish,¹⁴² and R. Ridgway mentioned the bird's occurrence at New Orleans.¹⁴³ The writer has been unable to obtain any further light on the specimen mentioned by George E. Beyer¹⁴⁴ as having been collected in Louisiana and preserved in the collection of the museum of Tulane University. The most recent report of the occurrence of the Louisiana Parakeet in Louisiana is by I. H. Alford, of Prairie Mer Rouge, who narrates that he remembers hearing his father talk of parakeets when he was a boy about the year 1870; and, though he has never seen one, he heard of them during the years about 1900, in Union, Claiborne, and Webster parishes.

John J. Audubon obtained a specimen of this bird about 1821, at Bayou Sara, near Saint Francisville, and used it as

¹⁴⁰Gmelin, Syst. Nat., Vol. I, Part 1, 1788 (before July 25), p. 347.

¹⁴¹Life Hist. North Amer. Birds, Vol. II, Smithsonian Contrib. Knowl., Vol. XXXII, 1895 [Oct. 1, 1896], p. 4.

¹⁴²Journ. Cincin. Soc. Nat. Hist., Vol. IV, No. 2, July, 1881, p. 152.

¹⁴³Bull. U. S. Nat. Mus., No. 50, Part VII, May 5, 1916, p. 148.

¹⁴⁴Proc. La. Soc. Naturalists, for 1897-1899 (1900), p. 101.

the basis for one of his figures of the species in the "Birds of America".¹⁴⁵ C. W. Beckham reported one bird seen at Bayou Sara about 1880,¹⁴⁶ but seemingly none has appeared there since.

Order CUCULIFORMES

Family CUCULIDAE

YELLOW-BILLED CUCKOO

Coccyzus americanus americanus (Linnaeus)

The 'rain crow', as this bird is often known, in common with the Black-billed Cuckoo (which bird is very similar in habits and appearance, except for a wholly black bill) is a bird about a foot long, relatively slender and with a long tail, brownish olive above, white below, and with the under part of the bill yellow.

It is a rather shy bird, inhabiting mostly the woodlands, thickets, and cultivated areas. It ordinarily does not make long flights, but slips through the trees unobtrusively, and is, therefore, less easy to observe than some more demonstrative bird. It is seen almost always singly or in pairs, but is much more frequently heard than seen. Its notes are a repetition of the syllables 'ca' and 'cow', long drawn out at the end of the call.

From the standpoint of agriculture and horticulture the Yellow-billed Cuckoo is one of our most valuable birds, for it is one of the relatively few that eat large numbers of the various kinds of hairy caterpillars. The extent to which this bird subsists on these caterpillars may be readily imagined from the fact that several hundred small ones have been found in the stomach of a single bird. Other caterpillars, some of them very destructive, are also included in its diet. It also eats locusts and other insects, some of them very injurious kinds, and wild fruits, such as wild grapes and blackberries.

¹⁴⁵Ornith. Biog., Vol. I, 1831, p. 140.

¹⁴⁶Bull. Nutt. Ornith. Club, Vol. VII, No. 3, July, 1882, p. 164.

Because the European Cuckoo lays its eggs in the nests of other birds and leaves them for the victims to hatch, the Yellow-billed Cuckoo is sometimes supposed to have the same habit; but, except under very unusual circumstances, the eggs of this bird are not deposited in the nests of other birds. The bird breeds along the edges of woodlands, in thickets, orchards, and similar places, building a very inconspicuous and flimsy nest of twigs, bark, and roots, with more or less lining of pine needles, straws, pieces of grass, and blossoms of trees and bushes. Not infrequently the nest is so thin that the eggs can be seen from below. It is normally not more than 15 feet from the ground in a low tree or bush. The eggs range from two to six, and are pale bluish green, unmarked.

The Yellow-billed Cuckoo is a common and generally distributed summer resident, from March 31 to November 3, over all of Louisiana, except the marshes, in fact, wherever there are woodlands or sufficient trees for its habitat. It is recorded north to Mer Rouge, Monroe, Bienville Parish, Bossier Parish, and Caddo Parish; west to Caddo Lake, Cross Lake, Mansfield, Logansport, Sandel, Leesville, Longville, Vinton, and Toomey; south to Cameron Farm 14 miles south of Vinton, Lake Charles, Jennings, Mermentau, Chenier au Tigre, Calumet Plantation near Patterson, Grand Isle, and Diamond; and east to Diamond, Junior, Belair, New Orleans, Pearl River, Mandeville, Bains, Lake Saint John, Jena, Newellton, Singer Preserve on the Tensas River 13 miles southwest of Tallulah, and Tallulah. This species breeds in Louisiana from May to July, and there are records of eggs from May 13 to July.

Vernon Bailey reported the Yellow-billed Cuckoo as common at Mer Rouge, between June 2 and June 7, 1892; and the writer found it at Caddo Lake and Cross Lake west of Shreveport, June 18, 1933. A. H. Howell obtained specimens at Mansfield, April 29, 1907, and at Logansport, August 25, 1906; E. G. Wright, at Chenier au Tigre, May 24 and 26, 1930; also T. D. Burleigh, at New Orleans, May 15, 1935. The writer found it at Sandel, Leesville, Longville, and Lake Charles, June 19, 1933, and at Vinton, Jen-

nings, Mermentau, and Toomey on the following day. E. R. Kalmbach noted it at Cameron Farm 14 miles south of Vinton, May 8, 1919. It is reported as a common summer resident, observed on April 25 and May 1, 1902, at Diamond by H. L. Ballowe; in Bienville Parish from April to October by J. S. Campbell; and was found at Junior in Plaquemines Parish, August 4 and 5, 1917, by H. H. Kopman. The writer noted it on Honey Island, Pearl River, June 27, 1933. Robert Butler reports its arrival at Bains on April 18, 1931, and notes it as a summer resident in that vicinity. The writer observed the species at Lake St. John, Jena, and Newellton, June 16, 1933; and on the Singer Preserve and at Tallulah on June 17, 1933. A nest and egg from Belair were taken on June 9, 1904, by Andrew Allison, and they are now in the United States National Museum. Nests and eggs in the collection of the museum of Tulane University were collected at New Orleans in June, 1897. Several birds in the same collection were obtained at Spanish Fort, New Orleans, and on the shore of Lake Pontchartrain, May 17, 1890; at Mandeville, April 23, 1876; and at Madisonville, June 28 and July 1, 1888; also in the Louisiana Department of Conservation, from Grand Isle, April 14, 1937, taken by Winston E. Nolan. At Grand Isle on April 21, 1937, this bird was unusually numerous, for 30 were seen on that day by Ambrose Daigre.

BLACK-BILLED CUCKOO

Coccyzus erythrophthalmus (Wilson)

The Black-billed Cuckoo is a rare transient, from April 21 (in southwestern Mississippi, April 14) to May 16, and from September 20 (in southwestern Mississippi, August 15) to October 11, in eastern Louisiana; reported west to Monroe and Grand Isle, and east to New Orleans, Baton Rouge, and to Bay Saint Louis, Mississippi.

George H. Lowery, Jr., reports it about Monroe from September 20 to September 23, but as rare in northern Louisiana. It was observed at New Orleans between October 8 and October 11, 1899, but only a single individual was

seen.¹⁴⁷ H. H. Kopman saw a number of individuals at New Orleans on May 4, 1924; and specimens were taken in Jefferson Parish by Winston E. Nolan, September 30, 1932, and May 16, 1933; also by Earl R. Smith on Grassy Island in Saint Bernard Parish on May 9, 1926. George H. Lowery, Jr., found one dead at Baton Rouge on April 21, 1933, killed by striking a tower. The writer has identified a specimen taken by Winston E. Nolan at Metairie on April 28, 1937.

SMOOTH-BILLED ANI

Crotophaga ani Linnaeus

The Smooth-billed Ani is a casual visitor in both summer and winter in Plaquemines Parish and Saint Bernard Parish in southeastern Louisiana. There is no positive evidence that the bird breeds in the State.

The first record for Louisiana is a specimen, now in the museum of Tulane University, taken by H. L. Ballowe, at Diamond, July 18, 1893 (not July 29, as previously recorded). The species has been seen a number of times since by Doctor Ballowe in the vicinity of Buras, as, for instance, January 29, 1906, January 14 and January 27, 1908; and on February 8 of the same year he noted four at one time. It has also been reported by George E. Beyer¹⁴⁸ as of occasional occurrence in Saint Bernard Parish, but there are on record no definite dates.

GROOVE-BILLED ANI

Crotophaga sulcirostris sulcirostris Swainson

The Groove-billed Ani, a tropical species, is a casual autumn and winter visitor to central and southern Louisiana.

The first record for the State is a specimen taken near New Orleans about 1890, and recorded by George E. Beyer.¹⁴⁹ Another was collected at Ostrica in Plaquemines Parish during the early winter of 1919; and still another

¹⁴⁷Beyer, Allison, and Kopman, *The Auk*, Vol. XXV, No. 4, October, 1908, p. 445.

¹⁴⁸Beyer, Allison, and Kopman, *The Auk*, Vol. XXV, No. 4, October, 1908, p. 443.

¹⁴⁹Proc. La. Soc. Naturalists, for 1897-1899 (1900), p. 102.

bird, without date, was obtained near Houma, and sent to the Louisiana Department of Conservation at New Orleans.¹⁵⁰ There is also a male specimen now in the museum of the Louisiana Department of Conservation at New Orleans, taken at Cottonport, December 11, 1932, by a Mr. Coco. The latest record is a male collected at Grand Isle by Ambrose Daigre on April 23, 1935.

Order STRIGIFORMES

Family TYTONIDAE

BARN OWL

Tyto alba pratincola (Bonaparte)

The tawny brown upper surface, and white or very pale buff lower parts of this bird, readily distinguish it from all the other owls of this region. In addition, its heart-shaped instead of round face gives it a peculiar appearance, and has earned for it the name 'monkey-faced owl'. The bird is about one and one-half feet long, and has ample wing extent in proportion. The soft plumage, as of all owls, gives it the power of almost noiseless flight. It is, like most owls, nocturnal, and hunts but little during the day, spending this time roosting in out of the way places, such as in dense shade or in holes of large trees. At times a number of them gather together in such roosting places.

This bird ranges over almost all kinds of country, but it is probably not so common in the dense forests, although it does occur in swamps and similar places. It is fond of taking up its abode in church steeples and towers of buildings wherever it is able to find an out-of-the-way nook. Its ordinary voice is a low 'click' several times repeated, but it has other rather feeble notes, and sometimes a louder call note.

In its food habits this is one of the most beneficial of our owls, as it lives largely on rodents such as mice and rats, together with other small mammals, including shrews, pocket gophers, and ground squirrels. Very few birds are

¹⁵⁰Bull. La. Dept. Cons., No. 20, December, 1931, p. 342.

in its bill of fare, and it almost never touches poultry or game birds. Various kinds of insects, particularly grasshoppers and locusts, are eaten. When it is realized that even when partially grown it can eat nine or ten mice at a single meal, the great amount of good that this bird does in the destruction of these injurious rodents may be seen. Unfortunately the bird is not so abundant in many places as it should be, although it is probably true that there are more of them than are ordinarily known, since the bird is so retiring in its habits and seldom is seen during the day. The undigestible portions of its food are ejected through the mouth in the form of good-sized oval, so-called pellets, and from an examination of these it is easy to determine what the bird has been eating.

It breeds in almost any available place, laying its eggs in hollow trees, nooks about all kinds of buildings, steeples and towers of churches and other structures in towns and cities, and even in holes in banks, and in underground burrows. Little nesting material is used, but sometimes a small amount of rubbish, chips, or the regurgitated pellets of the owl itself. The eggs are usually five to eight, but sometimes more, white, and slightly more pointed at one end than at the other. It takes these three weeks or more to hatch, and the male in part assists the female in the incubation duties. Since the bird begins to sit as soon as the first egg is laid, the young do not all hatch at the same time, and for this reason young of different ages may be seen in the same nest. Like most young birds they require a large amount of food, and they remain in the nest until they are able to fly.

The Barn Owl is an uncommon permanent resident in most of Louisiana, from Grand Isle, Marsh Island, the Rainey Wild Life Sanctuary, New Iberia, and Chenier au Tigre, north at least to Ruston and Monroe. It breeds early in the year, and there is record of young as early as March 7.

A. M. Bailey records that several pairs have nested for many years at Chenier au Tigre; and the species was taken, July 20, 1925, at Marsh Island by C. C. Sperry. There is a

specimen in the museum of the Louisiana Department of Conservation at New Orleans, collected at Grand Isle in April, 1931. Specimens in the museum of Tulane University were obtained at New Orleans, December 2, 1896, and November 24, 1873; also in Saint Charles Parish, without date. H. H. Kopman found several individuals at Oneida, near Convent, between December 23, 1893, and January 1, 1894; also observed the species at Caernovan, about 15 miles from New Orleans, on November 28, 1917. F. W. Langdon collected a single individual at the Cinclare Plantation in West Baton Rouge Parish, April 14, 1881; and H. E. Van Deman sent to the Biological Survey a specimen collected at Ferriday, Concordia Parish, April 20, 1912. Robert Butler reports that it breeds in West Feliciana Parish; Ambrose Daigre notes it as nesting at Alexandria; and George H. Lowery, Jr., says that it is a common permanent resident about Baton Rouge; also that it occurred regularly at Ruston in 1928, 1929, and 1931, and that at Monroe one bird was captured on February 16, 1930. Wharton Huber collected one at Chenier au Tigre on January 14, 1928; and George H. Lowery, Jr., one at Baton Rouge on March 6, 1937.

Family BUBONIDAE¹⁸¹

FLORIDA SCREECH OWL

Otus asio floridanus (Ridgway)

This is one of our small owls, being about eight or nine inches in length, and is furnished with little tufts of feathers on the side of the head which look like ears when erected. Like other owls its eyes are set straight forward and surrounded by a rather large disk of feathers which form a rather well-marked face. The upper parts of the bird are normally dark gray mixed with blackish and pale gray, white or nearly so below, with streaks and bars of blackish. This is the normal coloration, but another so-called phase is bright reddish brown above, and the white

¹⁸¹Strigidae of the 1931 A. O. U. Check-List.

below is much tinged with this color. This so-called red phase has nothing whatever to do with either sex, age, or season.

The note of this owl is rather weird and tremulous, from which the name 'shivering owl' has arisen. It is also in the south called 'squinch owl'; and the French in Louisiana call it 'chouette'.

It lives almost everywhere from the deep forests to the more open country, but usually where there are trees, inhabiting at times even streets and parks of cities. It is abroad mostly during the night and spends the daylight hours quietly perched in some secluded place. For this reason it is much more often heard than seen.

Its food is varied, but it lives largely on mice, rats, and other mammals, various kinds of large insects, and a variety of other food, such as crawfishes, earthworms, scorpions, lizards, frogs, fishes, and birds, though seldom does it disturb poultry. At certain times, when other food is less available, it has been known to be rather destructive to small birds.

Its nest is situated in woodlands or in various kinds of cultivated areas, particularly orchards and shade trees, and it not infrequently breeds in trees along city streets or in city parks. A hollow in a tree is a favorite nesting site, but crevices about buildings or even a nesting box is suitable, and an old woodpecker hole is sometimes adopted. The eggs are usually four or five, white, unmarked, and nearly round. Twenty-one to twenty-five days is the period of incubation, and sometimes both male and female collaborate in the incubation.

The Florida Screech Owl is a fairly common permanent resident throughout Louisiana. It has been reported north to Monroe, Bienville, and Belcher; west to Foster, Caddo Parish, and Vinton; south to Cameron Parish, Pecan Island, Chenier au Tigre, New Iberia, Baldwin, Morgan City, Houma, and the mouth of the Mississippi River; and east to Mandeville, Madisonville, and Hackley. It breeds from

March to May, and there are records of eggs from April 3 to April 14, and of young in the nest on March 28.

Specimens in the museum of Tulane University were taken at Vinton, March 3, 1892, and on an unrecorded date. There are specimens in the Biological Survey collection from Morgan City, taken by Vernon Bailey, June 14, 1925, and by Mrs. R. D. Svihla, August 26, 1925; at Houma, taken, May 7 and May 10, 1892, by Vernon Bailey, and May 4 by R. J. Thompson; and at New Orleans by T. D. Burleigh, September 6, 1935. Mrs. G. L. Baldwin reported its breeding at Baldwin, May 15, 1915; George E. Beyer noted its breeding at Madisonville; and Edward Butler, at Bains in 1916. A. H. Howell observed the species at Hackley between February 20 and February 24, 1912. Eggs of this bird, taken in Saint James Parish, April 14, 1900, are in the museum of Tulane University. J. S. Campbell discovered at Bienville on March 28, 1933, a nest containing young nearly ready to fly. E. R. Kalmbach noted the species at Crowley, June 19, 1924. Specimens of the Florida Screech Owl in the museum of Tulane University have been examined from New Orleans, September 9, 1888; Plaquemines Parish, autumn (no further date); Arcola, January 10, 1893, collected by Gustave Kohn; and Avery Island, January 20 and April 3, 1894, collected by George E. Beyer. Another specimen from Avery Island, obtained by George E. Beyer, April 3, 1896, was sent to the United States National Museum. A. M. Bailey took several at Chenier au Tigre, January 2, 1934, March 10, 1931, May 23 and 25, 1930; Wharton Huber others at Chenier au Tigre on January 29 and 30, 1928; and F. C. Lincoln one at Avery Island on June 28, 1919.

Study of a good series of Screech Owls from Louisiana seems to show conclusively that the race breeding in this State is the Florida Screech Owl, *Otus asio floridanus*, not the typical race, *Otus asio asio*, from South Carolina, to which it has been recently referred. The birds from Louisiana are small and dark, and practically indistinguishable from typical Florida birds. Apparently the Eastern Screech Owl, *Otus asio naevius*, does not occur in Louisiana except

perhaps as a rare winter straggler. The Florida race is, therefore, the only Screech Owl at present known from Louisiana.

The family name of this group of owls should be Bubonidae, instead of Strigidae as given in the 1931 edition of the American Ornithologists' Union Check-List; since *Bubo* is the type genus of the family, that is, the genus from the name of which the first family name in the group was formed.

GREAT HORNED OWL

Bubo virginianus virginianus (Gmelin)

This, our largest owl, is about two feet in length, with an extent of wings sometimes a little over four feet. It may be distinguished from the Barred Owl by the two very prominent so-called ear tufts, from which its name 'Great Horned Owl' has arisen. It is dark above, mixed with brown, black, and grayish, and below it is buff, numerously barred with brown and black, and has a conspicuous white throat.

It is a bird of the woodlands and of the deep forests, so that it is less frequently encountered than some of the smaller owls. Its call, by which its presence is usually ascertained, is a loud, low-toned 'who' several times repeated.

This is one of the few destructive owls. Its powerful build enables it to kill almost all but the largest mammals and birds, and its ordinary food consists of various mammals such as rabbits, skunks, rats, and mice; snakes; ducks, and various kinds of small birds such as flickers and song birds. It frequently attacks game birds such as the Bobwhite, rails, and the Woodcock, and it occasionally takes fish and frequently insects. It is also at times destructive to poultry, and individuals of the species that acquire a taste for this, persist in it as long as such food is available. Like most other owls the indigestible portions of its prey are ejected from the mouth in the form of pellets.

The Great Horned Owl begins to breed very early in the year in most parts of its range, in the far south sometimes even in November or December, and its nest is to be found in either a hollow of a tree, usually in the deep forest, or in the nest of a hawk or crow that has been appropriated and repaired for the purpose. There are usually two eggs, white, and almost spherical. It takes about four weeks to hatch the eggs, and both the parent birds usually take part in this. The young remain for a considerable time in the nest and are fed lavishly by the parents. At times when enemies approach the nest the parent birds will viciously attack, and are capable of causing painful injury to a human being. This, however, is not always the case and the bird often leaves the nest at the approach of anyone, and does not return until the coast is clear.

The Great Horned Owl is an uncommon permanent resident throughout the wooded portions of Louisiana; and has been reported north to the northeastern corner of the State, Richland Parish, Monroe, Bienville, and Bossier Parish; west to Caddo Parish and Vinton; south to Chenier au Tigre, Avery Island, Raceland, and New Orleans; east to Mandeville, Madisonville, Clinton, Saint Francisville, and East Carroll Parish. It breeds from January to March; and there is record of young out of the nest on February 18.

Ned Hollister reported in 1904 the occurrence of this species in the parishes of Morehouse, West Carroll, East Carroll, and Madison; and E. L. Moseley noted it from Richland Parish, April 3, 1923. J. S. Campbell regards it as common about Bienville, where it breeds. Specimens are in the museum of Tulane University taken at Vinton, January 20, 1894, and at Raceland, January 8, 1890. A specimen in the museum of the Louisiana Department of Conservation at New Orleans was collected at New Orleans, but there is no indication of date. One obtained at Bienville is also without date. George E. Beyer reported it in 1891 as fairly common and breeding at both Clinton and Madisonville; and Edward Butler stated that it bred at Saint Francisville in 1915. William B. Ward records that on October 1, 1933,

he found several Great Horned Owls that had been killed by automobiles on the highway between New Orleans and Baton Rouge.

SNOWY OWL

Nyctea nyctea (Linnaeus)

The Snowy Owl is a casual winter visitor in southern Louisiana.

According to Gustave Kohn a specimen of this owl was obtained at Baton Rouge a number of years prior to 1900. Another was shot at Bayou Des Allemands during the winter of 1878 to 1879;¹⁵² and John J. Audubon records¹⁵³ that the species was reported to him as having been shot at the mouth of the Red River in Louisiana. There are no other records of this bird for the State.

AMERICAN HAWK OWL

Surnia ulula caparoch (Müller)

The American Hawk Owl is an accidental winter visitor in southern Louisiana, and there is apparently but one record for the State. This is a single specimen taken by Edward Butler near Bayou Sara, during the winter of 1886.¹⁵⁴

WESTERN BURROWING OWL

Speotyto cunicularia hypugaea (Bonaparte)

A bird of moderate size, some ten inches in length, long-legged for an owl, brown above, with white or buff spots, and white below with spots and bars of dark brown, this owl is distinctive. It is well named 'ground owl', since it remains almost all the time on, in, or near the ground. Its name 'Burrowing Owl' has reference to its breeding habits.

It is an inhabitant chiefly of the open country, prairies and plains, and is often, for reasons of convenience, associated with the prairie dogs, in the deserted burrows of

¹⁵²Beyer, Proc. La. Soc. Naturalists, for 1897-1899 (1900), p. 101.

¹⁵³Ornith. Biog., Vol. II, 1835, p. 138.

¹⁵⁴Stanley C. Arthur, Bull. La. Dept. Cons., No. 5, January, 1918, p. 51.



Painting by R. Bruce Horsfall

(Courtesy of the National Association of Audubon Societies)

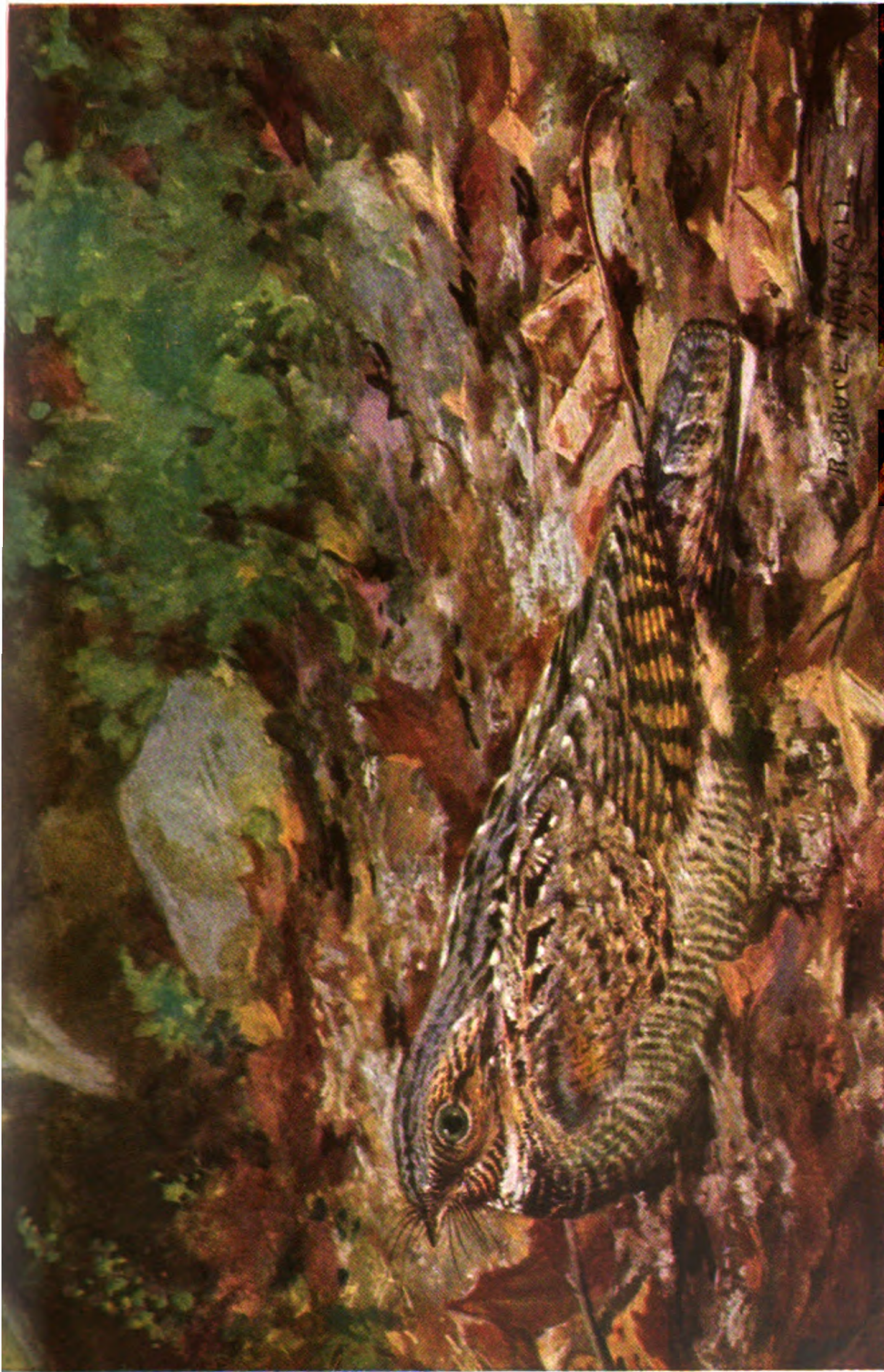
THE SHORT-EARED OWL

Asio flammeus flammeus (Pontoppidan)

Borne on silent wings, the Short-eared Owl searches the marshes for its prey. Both owls and hawks have suffered persecution at the hands of ignorant hunters. They are, with the exception of only a very few species, birds highly beneficial to man.



ADULT AND YOUNG CHUCKWILLSWIDOW (*Antrostomus carolinensis*).
Plant City, Fla., May 15, 1934.
(Photograph by A. M. Bailey and F. R. Dickinson.)



(Courtesy of the National Association of Audubon Societies.)

THE EASTERN WHIP-POOR-WILL
Antrostomus vociferans vociferans (Wilson)

This eerie Louisiana bird, whose nocturnal and repeated cry has given rise to many odd superstitions, is an example of a species whose coloration matches marvelously the environment it haunts. Bristle-like "whiskers" at the sides of its wide mouth aid the bird in its capture of insects on the wing.

which it often builds its nest. This association has given rise to the ridiculous story that it occupies the same burrows with prairie dogs and rattlesnakes. It is often abroad in the daylight, although it spends a great deal of its time underground, and, so far as hunting its prey is concerned, is mostly a nocturnal bird. It has fairly good powers of flight, but it does not usually remain long on the wing, except perhaps during migration, and seldom is seen except singly or in very small groups. In the daytime it is observed commonly sitting quietly at the entrance to its burrow or poised on some little eminence, rock, or even fence-post. The bird is not shy, and when one approaches, unless too close, it watches intently and turns its head to follow a passing person, often bowing in a ridiculously perfunctory manner. It has a number of rather low notes, one of which is similar to that of the Yellow-billed Cuckoo.

It is probably a beneficial species because it lives to a considerable extent on such important insects as grasshoppers, beetles, crickets, and similar large kinds. Other items of its food are mammals, such as small ground squirrels, kangaroo and other rats, mice, centipedes, scorpions, and probably only occasionally, small birds. A few seeds and some fruit are also consumed at times.

The nesting of this bird is one of the most interesting features of its life history. It is fond of appropriating when available an abandoned burrow of a prairie dog, which it readily adapts to its use. Also the holes of ground squirrels are made use of and enlarged for the purpose. In fact, almost any hole in the ground made by other mammals like badgers, foxes, skunks, and even armadillos, is at times appropriated. The bird seldom, if ever, digs an entire burrow for itself, preferring to enlarge any one that it can find unoccupied. This burrow is usually several feet in length, sometimes more than ten and rarely ever as short as two feet. At times it lines the cavity at the end of the burrow with grasses, weed-stalks, feathers, or pieces of manure. The eggs are usually seven to ten, white, unmarked, as are those of other owls. Both birds engage in incubation, which occupies about 21 days.

The Western Burrowing Owl is a rare winter resident, from November 24 to April 6, on the prairies of southern Louisiana, from Diamond, Grand Isle, and Chenier au Tigre, north to Baton Rouge, Jackson, Vinton, and Jacksonville (Toomey) in southwestern Calcasieu Parish; and breeds accidentally in the southeastern part of the State.

H. L. Ballowe reported this species from Diamond in Plaquemines Parish, January 15 and March 1, 1902; and A. M. Bailey collected specimens at Chenier au Tigre, March 6, 1918, and December 9, 1925. The following specimens have been examined: Baton Rouge, March 11, 1933, and November 11, 1934, collected by George H. Lowery, Jr.; Grand Isle, March 29, 1926, E. S. Hopkins, and the latter part of March, 1933, by Ambrose Daigre; Jackson, November 24, 1898; Vinton, December 30, 1897; and Jacksonville in Calcasieu Parish, January 20, 1899, and February 1, 1898, collected by George E. Beyer.

George H. Lowery, Jr., reported that eggs of this owl were found near Baton Rouge about April 10, 1935. This is the only known instance of the breeding of the species in Louisiana.

There is, so far as the writer has been able to determine, no authentic record for the Florida Burrowing Owl, *Speotyto cunicularia floridana*, for the State of Louisiana. All the specimens of Burrowing Owls from Louisiana that he has examined in the present connection are clearly referable to the western form.

NORTHERN BARRED OWL

Strix varia varia Barton

Only two large owls occur commonly in Louisiana. One is the Great Horned Owl, with conspicuous so-called ears, which are tufts of feathers that can be raised at will; and the Barred Owl, which is of about the same size, but has no ear-tufts. Otherwise these two owls are similar, the present one almost two feet long, with very conspicuous broad, dark brown bars on the white ground of the anterior under parts, and posteriorly broadly striped with dark

brown; above it is dark brown with bars and spots of white. It is sometimes called 'wood owl', 'hoot owl', 'rain owl', 'round-headed owl', or simply 'owl'. As with many other birds, some of these names are of interest as showing the characteristics that attract the attention of the observer.

This owl has a rather wide distribution, being found in eastern North America as far north as southern Canada and Newfoundland, south to the Gulf Coast, and it is largely resident wherever found. Two subspecies occur in Louisiana; the Northern Barred Owl, which inhabits the northern part of the range of the species, and the Florida Barred Owl, which occurs in the Gulf states west to Texas. The chief difference that separates these two forms is the lack of feathering on the toes in the southern race.

This big owl inhabits chiefly the deep woods and so-called swamps, particularly the timbered bottomlands. Like most of the owls it is a bird of the twilight and night, and is apparently rarely seen in broad daylight. Consequently its habits are much more difficult to study than are the habits of birds that are more active during the day. It spends most of its time during the daylight hours resting in some hollow tree or among the dense foliage. Like most of the owls its flight is rather slow and practically noiseless. It is, however, capable of flying considerable distances without rest.

One of the strangest and most astonishing characteristics of this owl is its remarkable vocal performances. Its ordinary call is not conspicuously different from that of the Great Horned Owl, but consists usually of a greater number of notes, and is more varied in character. It, however, has other notes that are very startling, particularly to anyone who is not familiar with this bird. Sometimes these loud calls, coming from a swamp or deep woods, resemble nothing so much as the ravings or laughter of a maniac.

Like most owls this bird moves and hunts singly or at most in pairs. By a great many people it is supposed to do considerable damage to poultry and game birds, but the

evidence derived from the examination of the stomach contents, and from observations of its habits, are all to the effect that the bird is much more beneficial than detrimental. It lives chiefly on mice, rats, and various other small mammals, and to some extent on insects, fish, crawfishes, and sometimes, apparently when other food is scarce, a little on birds and poultry. There are cases of its eating Screech Owls, which might be considered a case of "dog eat dog", or, more strictly speaking, of "owl eat owl". The Barred Owl thus is one of the allies of the farmer in keeping down rodent pests.

This owl makes its nest either in the branches of a tall tree like a hawk, under which circumstances it is composed of sticks, leaves, and grasses, and lined with similar finer materials; or in a natural hollow in a tree, where only a small amount of nesting material is placed; but in either case the nest is ordinarily at a considerable height from the ground. The eggs are white, like those of other owls, and usually not over three in number, sometimes only one. The bird nests early in the year, sometimes even in February, and the young remain for a considerable time in the nest.

The Northern Barred Owl is an accidental winter visitor to southern and northern Louisiana. George H. Lowery, Jr., reports this form of the Barred Owl as a winter visitor to northern Louisiana, but owing to its sedentary habits it probably is not more than a straggler to even that part of the State. It is not distinguishable in the field from the Florida Barred Owl.

The only certain record for the State is a single specimen in the museum of Tulane University collected at Lake Salvador, southwest of New Orleans, December 5, 1891, by Gustave Kohn.

FLORIDA BARRED OWL

Strix varia georgica Latham¹⁵⁵

The Florida Barred Owl is a fairly common permanent resident throughout the wooded portions of Louisiana, re-

¹⁵⁵*Strix varia alleni* of the 1931 A. O. U. Check-List.

ported north to Lake Providence, Oak Grove in West Carroll Parish, Mer Rouge, Monroe, Bienville, and Bossier Parish; west to Caddo Parish and Natchitoches; south to Calcasieu Pass, four miles south of Gueydan, 13 miles south of Kaplan, Vermilion Bay, Calumet Plantation near Patterson, Morgan City, Houma, and Belair; and east to Lake Catherine, Mandeville, Madisonville, Clinton, Bains, Eldorado in Madison Parish, and Tallulah. It breeds in January and February; and there is record of young out of the nest on February 10.

Vernon Bailey found this species common in the vicinity of Mer Rouge, June 2 to 7, 1892; and J. Fairie collected it at Prairie Mer Rouge, June 16, 1853. The writer observed it at Crichton, June 18, 1933. A specimen in the museum of Tulane University was taken at Calcasieu Pass, December 15, 1891; E. R. Kalmbach collected it four miles south of Gueydan, July 14, 1925; and he also observed the species 13 miles southeast of Kaplan on September 2 of the same year. T. D. Burleigh collected a female at New Orleans, August 31, 1935; Vernon Bailey discovered pellets from this species at a point about eight miles south of Morgan City, January 19, 1926, and at Bayou Penchant near Morgan City, January 22, 1926; and he frequently observed the species about Houma from May 4 to May 16, 1892. J. S. Campbell regards it as a common resident of Bienville, where it breeds in January and February. Ned Hollister listed it from Belair between March 25 and April 8, 1904, and Arthur Svihla found pellets at Lake Catherine, February 20, 1926. George E. Beyer reported it breeding in 1891 at both Madisonville and Clinton; and Edward Butler, at Bains in 1916. E. R. Kalmbach noted it east of Tallulah on June 21, 1924; and Ned Hollister collected a specimen at Eldorado, Madison Parish, February 19, 1904. On the Singer Preserve 13 miles southwest of Tallulah, the writer observed this species on June 16 and June 17, 1933; also at Lutchet on June 14, 1933. Specimens of the Florida Barred Owl in the museum of Tulane University from the following localities have been examined in the present connection: Lake Salvador, December 4, 1891; Springfield, December, 1887; and Mande-

ville, April 12, 1875; and there are also specimens in the museum of the Louisiana Department of Conservation at New Orleans, taken at Marrero, October 15, 1932; and at Morgan City, without date. E. S. Hopkins collected it at Harvey, September 9, 1924; E. R. Kalmbach at Thibodaux, May 29, 1919; William Carriero, Jr., at Belle Chasse on November 4, 1916; and J. T. Sepulvado at Egan, March 25, 1937.

All except one of the barred owls from Louisiana examined belong to the Florida race, *Strix varia georgica*, commonly known as *Strix varia alleni*. The name *Strix georgica* was given by Latham to a bird the description of which agrees perfectly with that of the barred owl, and there seems to be no reason for not using this name for the southern form of the species, as the basis of Latham's name was a bird from Georgia, where the Florida Barred Owl is the prevailing race. This has already been shown.¹⁵⁶

LONG-EARED OWL

Asio otus wilsonianus (Lesson)¹⁵⁷

The Long-eared Owl is a rare winter visitor in Louisiana, south to Avery Island.

There seem to be available only three definite records of this species for the State. A single individual was found near Abbeville, June 18, 1904, and recorded by Beyer, Allison, and Kopman.¹⁵⁸ Two were reported at Paradis, on December 22, 1931, by J. B. Strabala and Paul A. Stewart.¹⁵⁹ No other authors who mention its occurrence in Louisiana give any specific records. There is, however, a specimen in the museum of Tulane University, collected at Avery Island, January 26, 1894.

The American Long-eared Owl is undoubtedly but a subspecies of the European bird, *Asio otus*, and as such its name should be a trinomial, as given above, *Asio otus wilsonianus*.

¹⁵⁶The Auk, Vol. L, No. 1, January 4, 1933, pp. 106-107.

¹⁵⁷*Asio wilsonianus* of the 1931 A. O. U. Check-List.

¹⁵⁸The Auk, Vol. XXV, No. 4, October 1, 1908, p. 442.

¹⁵⁹Bird Lore, Vol. XXXIV, No. 1, February 2, 1932, p. 70.

SHORT-EARED OWL*Asio flammeus flammeus* (Pontoppidan)

This northern species is an uncommon winter visitor, from October to April 3, casually to May 21, in southern Louisiana, from Vinton, Rayne, Avery Island, and Buras, north to Mandeville, New Orleans, Kenner, Lobdell, and Monroe.

There are specimens of this species in the museum of Tulane University, collected at Vinton, January 7, 1898; at Rayne, January 4, 1893; at Mandeville, November 19, 1874; New Orleans, November 10 and November 23, 1891; and Kenner in January, 1888. Also a specimen was taken by E. S. Hopkins at Buras, March 4, 1931; and another by George H. Lowery, Jr., at Baton Rouge on April 3, 1933. E. G. Wright observed this species at Avery Island, May 21, 1930, which is a late date for its presence in Louisiana. George E. Beyer reported it from New Orleans, March 23, 1894, November 6 and 11, 1893; Andrew Allison saw one at Lobdell in West Baton Rouge Parish, March 26, 1903; George H. Lowery, Jr., one at Monroe, December 27, 1934; and G. L. Tiebout, Jr., one at Holly Beach in Cameron Parish about January 1, 1938.

SAW-WHET OWL*Cryptoglaux acadica acadica* (Gmelin)

The Saw-whet Owl is an accidental winter visitor to southeastern Louisiana, of which there is but a single record for the State, a specimen shot in December, 1889, near Madisonville, and later seen by George E. Beyer.¹⁰⁰

Order CAPRIMULGIFORMES**Family CAPRIMULGIDAE****CHUCKWILLSWIDOW***Antrostomus carolinensis* (Gmelin)

This bird, the largest of the goatsuckers in the United States, is about a foot long, mottled brown above, and deep

¹⁰⁰Proc. La. Soc. Naturalists, for 1897-1899 (1900), p. 100.

buff below, with streaks and bars of blackish, and a whitish band on the throat. It is a nocturnal bird, and spends the day mostly hidden in the recesses of thickets or forests. It is, therefore, rarely seen except when accidentally flushed, and its notes, which, from their resemblance, have passed into the name of the bird, are the means of betraying its presence in any locality. Like the Whippoorwill, it does not ordinarily ascend high in the trees, but perches lengthwise on the limb of a tree, fence-post, or other suitable place. Like the owls it has a practically noiseless flight, and for these various reasons is a bird not particularly easy to study. When seen it is almost always single or in pairs.

The food of this bird is almost entirely insects, most of which it catches on the wing, such as moths, ants, and beetles. Sometimes it captures and eats small song birds and even hummingbirds, the remains of which have been found in its stomach.

It breeds usually in the forests or on brushy slopes, building no nest but depositing its eggs on leaves or on the ground. There are two eggs, rather oblong, white or cream color, blotched and spotted with various shades of brown, lavender, and gray. The adults are greatly attached to the eggs and young, and protect them in every way possible by attempting to draw the attention of any intruder, even to the extent of exposing themselves to danger by feigning injury.

The Chuckwillswidow is a fairly common summer resident, from April 1 to late September, throughout most of Louisiana, excepting the marsh region of the Gulf Coast. It has been reported north to Choudrant in Lincoln Parish, Bienville, and Caddo Parish; west to Shreveport and Mansfield; south to Lafayette, Avery Island, Saint Martinville, and Grand Isle; and east to Mandeville, Madisonville, Bedico River, Covington, Clinton, Bains, and Cheneyville. It is also a casual winter resident in the coast region of the southern part of the State. It breeds chiefly during May and June.

The writer observed this species at Choudrant in Lincoln Parish, June 17, 1933; H. H. Kopman reported it from Shreveport, April 9, 1929; and A. H. Howell saw it at Mansfield, May 2, 1907. R. J. Thompson found it at Lafayette in 1892, and H. H. Kopman at Saint Martinville along Bayou Teche, August 9 to 12, 1917. E. S. Hopkins collected it at Mandeville, August 31, 1924; George E. Beyer reported it in 1891, not uncommon and as breeding at both Madisonville and Clinton; and Edward Butler, at Bains, in 1916. A specimen in the museum of Tulane University was collected on the Bedico River, June 2, 1889. The writer saw one at Cheneyville, June 15, 1933. J. S. Campbell discovered nests at Bienville on May 10, 1932, and May 15, 1933. One specimen was obtained by L. Vigi in Evangeline Parish on April 10, 1937.

The only winter record is a single bird seen by A. M. Bailey at Chenier au Tigre on January 2, 1934.

EASTERN WHIPPOORWILL

*Setochalcis vocifera vocifera*¹⁰¹ (Wilson)

This bird is another of the nocturnal inhabitants of the woods and thickets. Its name is derived from its call, which closely resembles the syllables 'whippoorwill'. It is thus almost always recognized by its call rather than by its appearance. It is a brown bird of mottled plumage very much like the Chuckwillswidow, the outer tail-feathers with a long white spot on the ends, and the throat with a conspicuous white band. It is rather smaller than the Chuckwillswidow, but difficult to distinguish in life on account of the usually poor light in which it is observed. In habits it is very much like the Chuckwillswidow.

Though it prefers the seclusion of the forests and thickets, where it breeds and pursues its prey, it ventures not infrequently out into the more open country and even into cultivated lands. Sometimes the nightly song is heard from a bird perched on a house-top, particularly in the

¹⁰¹*Antrostomus vociferus vociferus* of the 1931 A. O. U. Check-List.

country, but it does not ordinarily frequent towns or villages. While it lives in the United States and southern Canada in the summer, it is a migratory bird and in the winter is found not farther north than the southern United States.

It subsists very largely on insects, most of them night-flying kinds which are caught on the wing, such as moths of various kinds, potato beetles, grasshoppers, ants, June bugs, mosquitoes, and gnats. Its very large mouth, furnished with long bristles, makes an ideal insect trap.

This goatsucker breeds in woodlands and thickets, placing its eggs, without construction of a nest, on dead leaves or pine needles, or even in a slight depression on the bare ground. The two eggs are rather elliptical in shape, white, marked with brown, lilac, and gray. It takes about two and one-half weeks to hatch the eggs, which duty is performed mostly by the female, but both birds are unusually solicitous for their young.

The Eastern Whippoorwill is a fairly common transient, from March 19 to May 23, and from the middle of September to early November, in most of Louisiana, east to New Orleans, Covington, (Bay Saint Louis, Miss.,) Madisonville, Bedico River, Bains, and Monroe; and west to Caddo Parish; also a rare summer resident in the northern part of the State, south to near Monroe, and in Caddo and De Soto parishes. It is also of casual occurrence in winter in southeastern Louisiana.

H. H. Kopman reported it at Covington, April 14 to 16, 1900; and Robert Butler, at Bains, March 19, 1931, and March 26, 1932. A specimen in the museum of Tulane University at New Orleans was taken at Madisonville, May 23, 1886. J. S. Campbell considers it a spring transient in Bienville Parish, where it arrives in April. George H. Lowery, Jr., reports it in summer from the D'Arbonne Swamp, north of Monroe; and observed it at Baton Rouge on October 11, 1936. J. K. Strecker considered it rare in summer in Caddo, Bossier, and De Soto parishes.

The only winter records for Louisiana are a specimen in the museum of Tulane University, taken by Gustave Kohn on the Bedico River, January 6, 1889, and a bird observed by George H. Lowery, Jr., at Baton Rouge on February 17, 1936.

Family CHORDEILIDAE¹⁰²

EASTERN NIGHTHAWK

Chordeiles minor minor (Forster)

The Nighthawk, or 'bull bat', as it is commonly called, seems to be the victim of ill-chosen and misleading names. The bird is neither a hawk nor is it strictly speaking a night-flying bird, since, while it is abroad on moonlight nights and in the twilight, it flies and hunts at also other times of the day. During migration it can be seen in sometimes large loose flocks, particularly in the autumn when it moves southward. Its name 'Nighthawk' has probably been suggested by its powerful though erratic flight. It may readily be distinguished in the air by the large white patches on its wings and its white or buff throat crescent. Otherwise the bird is brown mottled with gray, white, and buff, and underneath barred with blackish. It is found in some form practically all over North America, but to spend the winter it migrates to southern South America, performing this long journey each year.

The Nighthawk is more of an open country bird than is the Whippoorwill or Chuckwillswidow, and it may be found resting on fence-posts, limbs of trees, rocks, or even on the ground during the daylight hours. Its characteristic note is a rather nasal 'peenk' uttered at intervals in the course of its flight. The bird also when coursing through the air often descends rapidly from a considerable height, and suddenly arresting its flight produces a loud, booming sound, caused by the concussion of the wings on the air.

Its food is largely or wholly of insects, mostly those that are to be taken on the wing. Grasshoppers, mosquitoes,

¹⁰²Subfamily *Chordeilinae* of the 1931 A. O. U. Check-List.

moths, gnats, cotton-boll weevils, potato beetles, ants, and even fireflies, are among the almost innumerable kinds of insects that this bird obtains. The stomach of one Night-hawk was found to contain some 500 mosquitoes; another 1,800 winged ants.

This bird breeds along the edges of woodlands or thickets, but often in open country. The two eggs are laid on the bare earth, without any attempt at nest building, sometimes on bare ground, sometimes on gravel, and sometimes on a rock or on leaves. The flat gravel roofs of houses in cities and towns apparently form a considerable attraction for this bird, since not infrequently the eggs are laid in such places. The eggs themselves are elliptical, and creamy white or grayish, spotted and blotched with various shades of brown, lilac, and drab. The female is so protectively colored that as she sits on the nest she is safe from most enemies. She sits closely and will often not leave until almost stepped upon. She is loath even then to leave the eggs and often stages a considerable demonstration, attempting by apparent boldness to frighten away any intruder. At other times she attempts, by feigning injury, to lure away anyone who approaches. The young are helpless when they are hatched and are fed regurgitated food for a considerable time.

The Eastern Nighthawk has been recorded in Louisiana only as an occasional spring transient, although it may very well be of regular occurrence in both spring and autumn, since it is indistinguishable on the wing from the other forms of the nighthawk.

There is but a single record for the State, that of a female taken at Colfax in Grant Parish, May 15, 1937, by George H. Lowery, Jr.

FLORIDA NIGHTHAWK

Chordeiles minor chapmani Coues

The Florida Nighthawk is a common and generally distributed summer resident, from March 18 to November 11, throughout Louisiana; and has been recorded north to Mer

Rouge, Monroe, Choudrant, Ruston, Bienville, Bossier Parish, and Caddo Parish; west to Shreveport, Mansfield, Florian, Vinton, and Black Bayou in Cameron Parish; south to Calcasieu Pass, Vermilion Bay, Patterson, Isle Derniere, Rainey Wild Life Sanctuary, Grand Isle, and Port Eads; and east to Diamond, Junior, Bird Island southwest of Breton Island, Breton Island, Brush Island, Grassy Island, Lake Catherine, Pearl River, Mandeville, Madisonville, Covington, Hammond, Bains, and Tallulah. It is, however, not common in summer in northern Louisiana, but is most numerous on the coast prairies. It breeds principally from May to June; and there are records of eggs from May 3 to June 9.

At Mer Rouge Vernon Bailey found it not uncommon, June 2 to June 7, 1892; and the writer saw several at Choudrant, June 17, 1933. J. S. Campbell regards it as a common transient but rare summer bird at Bienville, where he discovered young unable to fly on June 5, 1933. He found a nest with eggs near Lucky in Bienville Parish on May 25, 1932. H. H. Kopman reported its arrival at Shreveport, April 28, 1929, and April 24, 1935; and A. H. Howell saw it at Mansfield, May 2, 1907. The writer observed it at Florian, June 19, 1933; very common at Vinton, June 20, 1933; on Isle Derniere, June 22, 1933; and particularly numerous on Grand Isle on June 8, 1933. A single individual struck the light at the South Pass Lightship, off Port Eads, May 1, 1903, and the bird was forwarded to the United States Biological Survey. H. L. Ballowe reported it from Diamond, April 17, 1902; and H. H. Kopman noted it at Junior in Plaquemines Parish, August 4 to 5, 1917. The writer observed it on Bird Island, southwest of Breton Island, June 6, 1933; on Breton Island, June 5, 1933; on Grassy Island, June 2, 1933; and on Honey Island in Pearl River, June 27, 1933; J. Kittredge reported it at Lake Catherine, April 30, 1922; and H. H. Kopman saw it at Mandeville, August 18, 1917; noted its arrival at Covington, April 11, 1901, and April 12, 1900, and its departure, October 27, 1899; and reported it from Hammond, April 18, 1920. Robert Butler finds it breeding at Bains, and has

noted its arrival as early as March 20, 1929. E. R. Kalmbach saw it several times at Tallulah between June 13 and July 13, 1924. C. A. Bibbins reported its arrival at Mermentau, March 18, 1886; and W. W. Edwards, its departure at Abbeville, November 10, 1888. Eggs in the United States National Museum were collected at Grand Coteau, June 9, 1887. Additional records from the writer's 1933 notebook are: New Orleans, June 23; Dulac on Grand Caillou Bayou, common, June 22; Estherwood, Midland, Lake Charles, and Crowley, June 20, and at the last mentioned locality the species was unusually numerous. Individuals were collected by E. G. Wright at Chenier au Tigre, May 22 and 27, 1930; and in Cameron Parish, June 4, 1930. The writer has examined specimens of this bird from Grand Isle, May, 1931, June 10 and 12, 1933, and June 24, 1866; six miles north of Crowley, May 3, 1933; Madisonville, May 19, 1882; Bedico River in Tangipahoa Parish, May 30, 1889, and August 6 and 8, 1890; a female taken with eggs at New Orleans by T. D. Burleigh on May 3, 1935; a bird from Colfax in Grant Parish, May 15, 1937, by George H. Lowery, Jr., and another at Lindsay in East Baton Rouge Parish by the same collector on June 5, 1937.

While it is very likely that the Sennett Nighthawk, *Chordeiles minor sennetti*, occasionally occurs as a transient in Louisiana, there is at the present time no certain record.

PACIFIC NIGHTHAWK

Chordeiles minor hesperis Grinnell

The Pacific Nighthawk is of casual spring occurrence, from May 15 to June 20, in Louisiana.

The only definite records for the State are two males, taken by George H. Lowery, Jr.; one of these at Grand Isle, June 11, 1937, and the other four miles west of Holly Ridge, in Cameron Parish, June 20, 1937; and two individuals collected by T. D. Burleigh, at Colfax, in Grant Parish, on May 15, 1937.

Order **MICROPODIFORMES**¹⁶³Family **MICROPODIDAE****CHIMNEY SWIFT***Chaetura pelagica* (Linnaeus)

The Chimney Swift, or as it is often called, 'chimney sweep', or wrongly 'chimney swallow', is well-known throughout much of the eastern and middle United States. This dull brown bird, with long narrow pointed wings, looks very much like a cigar on wings, and is of very rapid and irregular flight. Its general appearance and movements in the air distinguish it easily from the swallows, which it otherwise closely resembles.

Although found in the summer as far north as southern Canada, it migrates in the winter chiefly to Mexico and Central America. In spring, late summer, and in autumn, in the United States, it gathers into sometimes great flocks which resort every night to some favorite resting place in a chimney, preferably a large one, either in the city or elsewhere, or occasionally in a large hollow tree. The bird is seen mostly on the wing and spends considerable of its time in this way, but for resting purposes it resorts to its nesting chimney or to its roost.

The food of this bird consists entirely of insects, most of them caught on the wing. They include flies, beetles such as the bark beetle, and many other injurious insects.

In former days, before the coming of white men to the United States, the Chimney Swift built its nests and roosted in hollow trees, but with the advent of civilization it readily adopted the chimneys of houses and other buildings for its purpose; so for nesting at the present time it rarely ever resorts to any other location. The nest is a peculiar structure made of dead twigs obtained by the bird by breaking them from trees while the bird is on the wing. These are fastened together into a half-basket shaped structure with saliva secreted by the bird. This same substance is used to glue the nest to the side of the chimney. The eggs

¹⁶³ Incorrectly spelled Micropodiiformes in the 1931 A. O. U. Check-List.

are usually four or five, pure white, and very thin shelled. It takes about three weeks or less to hatch the eggs, and this duty is shared by both birds. Not infrequently misfortune overtakes the young in the nest, since when they become well grown, if the saliva that fastens the nest to the wall becomes softened, the nest falls to the bottom of the chimney, and in some cases the young perish as a consequence.

The Chimney Swift is a common summer resident, from March 15 to November 8, over practically all of Louisiana. It is reported north to Mer Rouge, Monroe, Bienville, and Caddo Lake; west to Gayle, Frierson, Shreveport, Mansfield, Logansport, Natchitoches, Rosepine, and Vinton; south to Lake Charles, Iowa (La.), Midland, Gueydan, Kaplan, New Iberia, Avery Island, Vermilion Bay, Patterson, Houma, Bayou La Fourche, and Grand Isle; and east to Savoie, Junior, Phoenix, Carlisle, near Chef Menteur, Pearl River, Mandeville, Madisonville, Covington, Folsom in Saint Tammany Parish, Amite, Bains, Trout, Singer Preserve on the Tensas River 13 miles southwest of Tallulah, and Tallulah. It is also at least an occasional winter resident in the southern part of the state. It breeds from May to August.

Vernon Bailey reported it common at Mer Rouge, June 2 to 7, 1892, and there are eggs in the United States National Museum collected by J. Fairie in 1853 on Prairie Mer Rouge. J. S. Campbell considers it a very common summer resident at Bienville, where it breeds regularly. The writer observed it at Caddo Lake and Shreveport, June 18, 1933; while A. H. Howell found it common at Mansfield, April 26 to May 3, 1907, and at Logansport, August 25 to 27, 1906. The writer met with it at Natchitoches and Rosepine, June 19, 1933; at Vinton, Lake Charles, and Midland, June 20, 1933. E. R. Kalmbach observed it at Gueydan, May 3 and 17, 1925, and July 4, 1925, and at Kaplan, July 2, 1925. H. H. Kopman found it at Oaklawn (near Lacombe in Saint Tammany Parish) August 17, 1917; and on Bayou La Fourche, August 24 of the same year. The writer noted it at Houma on June 22 and 23, 1933; Winston E. Nolan took a specimen at Grand Isle, May 9, 1933; and E. G. Wright, one at Avery Island,

May 21, 1930. H. H. Kopman reported it at Savoie, April 14, 1918; at Junior, August 4 and 5, 1917; at Phoenix, April 9 and 10, 1918; and at Carlisle, October 4 and 5, 1917. The writer observed it near Chef Menteur and at Pearl River, June 27, 1933. H. H. Kopman reported it at Mandeville, August 18, 1917; at Covington, March 25, 1901; and at Folsom, March 15, 1923. At Baton Rouge, George H. Lowery, Jr., noticed it first in 1934 on February 26, though it usually does not appear there until about March 19. In the autumn of 1933 he saw about 5000 individuals that were roosting in chimneys of the Louisiana State University, where they remained until November 8.

Specimens in the museum of Tulane University at New Orleans were taken at Madisonville, July 18, 1888; Amite, May 31, 1888; Bedico River, August 17, 1890; and New Orleans, July 12, 1900. Edward Butler reported its arrival at Bains, March 31, 1922; and the writer noted it at Trout, June 16, 1933. E. R. Kalmbach found it common at Tallulah from June 13 to July 13, 1924.

Of particular interest is that the keeper of the Southwest Reef Lighthouse, at the mouth of Atchafalaya Bay, reported it on February 2 and 10, 1902, also on another occasion as early as February 1, and probably these dates, together with the early Baton Rouge date of February 26, represent winter records, as this species is not known as an early migrant. Furthermore, George H. Lowery, Jr., says that two Chimney Swifts spent the winter of 1937 to 1938 on the campus of the Louisiana State University, roosting regularly in one of the chimneys; and he saw them frequently during this period. The normal arrival dates for the southern United States are not earlier than the middle of March.

Family TROCHILIDAE

RUBY-THROATED HUMMINGBIRD

Archilochus colubris (Linnaeus)

Hummingbirds are among the most remarkable and interesting birds in the entire world. The only one that

occurs commonly in Louisiana is the Ruby-throated Hummingbird. Besides being our smallest bird it has the remarkable rapid humming flight that has given the bird its name. The wings beat so fast that they appear as a blur, but this rapidity enables the bird to have remarkable control over its movements. It is not only very fast on the wing in direct flight, but it can poise with the utmost ease, and even fly backwards. The bird itself is metallic green above, white below, with, in the male, a beautiful patch of metallic ruby red on the throat. Its wings are long and slender and its bill is long and pointed like a needle.

It lives in all kinds of woodlands, but it probably prefers more open, even cultivated lands, and it is frequently seen in the gardens of cities and towns. Sometimes it gathers in numbers about a favorite flowering tree, and the movements of the bird under such circumstances are a delight to watch. In fact the bird is always interesting. Its voice is a very faint twitter, sometimes in anger raised to greater volume, but nevertheless characteristic.

While the food of this bird is supposed to be chiefly the nectar of flowers, the flowers have an attraction because of the fact that so many insects, which are the main food of this bird, are attracted thereto. Flying from flower to flower the bird picks from the interior of each the insects that it seeks, and at times takes accidentally or purposely some of the nectar.

The nest is a beautiful structure, resembling more than anything else a knot on a branch, and is usually placed on a sloping or level branch of a tree or tall shrub. It is composed of plant down, bits of other fine vegetable materials, such as bark and grass, lined with fine plant down, and covered on the outside with pieces of lichens, which make the nest look like practically a part of the branch on which it is built. Two pure white eggs about the size of small beans are laid. The period of incubation is about two weeks and is performed chiefly by the female, at least during the daytime. The young are helpless and remain for a long time in the nest, during most of which period they are fed by the

adult bird by regurgitation. Attentive care is afforded by the parent bird during the nest life of the young. At times the adult is considerably exercised over the presence of an enemy near the nest, and will do its best to guard its offspring.

The Ruby-throated Hummingbird is a fairly common summer resident, from March 3 to November 12, in nearly all of Louisiana except the coastal marshes, though rare in summer in the southern part of the State. It has been reported north to Mer Rouge, Monroe, Bienville, and Bossier Parish; west to Caddo Lake and Mansfield; south to Saint Martinville, Baldwin, Calumet Plantation near Patterson, Morgan City, and Houma; and east to New Orleans, Pearl River, Mandeville, Madisonville, Hammond, Clinton, Bains, Thomastown, Singer Preserve on the Tensas River 13 miles southwest of Tallulah in Madison Parish, and Tallulah. It is also a transient in the coast region of Louisiana, south of its breeding range. It has long been reported as occurring in Louisiana during the winter, but we have been able to find only two definite records of its occurrence at this season, and both of these are recent. It breeds chiefly in May; and there are records of eggs from May 5 to May 8.

Vernon Bailey reported the species at Mer Rouge, June 2, 1892; H. H. Kopman noted it common at Monroe, May 12, 1929; the writer observed it at Caddo Lake, June 18, 1933; and A. H. Howell noticed it at Mansfield between April 26 and May 3, 1907. J. S. Campbell considers it a regular summer resident at Bienville, where he found nests on May 5, 1932, and May 8, 1933, the incubation period in both cases being 14 days. At Saint Martinville H. H. Kopman reported it several times between August 9 and 12, 1917; and at Baldwin Mrs. G. L. Baldwin reported it breeding in 1915. Vernon Bailey found it at Houma, May 4 to 16, 1892; and George E. Beyer reported it as common and breeding about 1891 at New Orleans, Madisonville, and Clinton. H. H. Kopman found it at Mandeville, August 18, 1917; at Hammond, April 25, 1920; and at Thomastown in Madison Parish, very common from July 13 to 28, 1896. Edward But-

ler reported it breeding at Bains in 1916 and 1919. E. R. Kalmbach noted it at a point near Tallulah, June 13 to July 13, 1924; and the writer observed it on the Singer Preserve along the Tensas River, June 17, 1933; also at Pearl River, June 27, 1933. George H. Lowery, Jr., chronicled its arrival at Baton Rouge, March 11, 1933, and March 17, 1934.

A nest taken at New Orleans, July 2, 1895, is in the museum of Tulane University; and the species was collected at New Orleans, March 28, 1896, by H. H. Kopman. A specimen sent to the United States National Museum was taken by Andrew Allison in Jefferson Parish, June 25, 1897; there is a specimen in the museum of the Louisiana Department of Conservation at New Orleans, taken by E. S. Hopkins at Grand Isle, April 5, 1931; and another by Ambrose Daigre, April 23, 1936. One in the Biological Survey was obtained by T. D. Burleigh at New Orleans on June 28, 1935. A single bird struck the South Pass Lightship near Port Eads, on April 10, 1902; and the species was collected by H. W. Henshaw at The Rigolets, April 5, 1870. The writer observed the species at Lottie, June 15, 1933; and Ned Hollister noted it at Belair, April 7 and 8, 1904. Birds seen by E. R. Kalmbach at Crowley, April 25, 1925, at Gueydan, April 29, 1925, and a single bird at the Cameron Farm 14 miles south of Vinton on May 14, 1919, may have been only transients; as also may have been the birds that were abundant at Iowa (La.), April 6 to 9, 1899, where they were observed by Vernon Bailey.

The only definite winter records for the State are single birds seen by George H. Lowery, Jr., at Monroe, December 10, 1934, and December 8, 1935.

RUFOUS HUMMINGBIRD

Selasphorus rufus (Gmelin)

This hummingbird is of only casual occurrence in the winter in southern Louisiana.

The first record for the State is a single immature male obtained by George H. Lowery, Jr., at Baton Rouge on Feb-

ruary 6, 1934. This bird had flown into the Louisiana State Capitol senate chamber, where it was caught by W. E. Anderson. The only other occurrence is a specimen collected by Mr. Lowery at Baton Rouge (University) on January 19, 1938. These represent two of the five known occurrences of this bird east of the Mississippi River, the others being in South Carolina and Florida.

Order CORACIIFORMES

Family ALCEDINIDAE

EASTERN BELTED KINGFISHER

Megaceryle alcyon alcyon (Linnaeus)

The present bird is well named, for it is preeminently a fisher. By the French it is called 'martin pêcheur', but by others usually just 'kingfisher'. It is about a foot long, bluish gray above, with a conspicuous crest, a long bill, white under parts, and with one or two dark bands across the breast.

It haunts the streams, lakes, ponds, and the inlets of coast and interior, wherever it is able to find a suitable expanse of water, and wherever it is likely to find the food on which it lives. It flies rapidly and with intermittent beats of the wings, which make it easily identifiable. It is rarely, if ever, seen in flocks, but singly and in pairs it patrols the streams, where its rattling call is distinctive.

It hunts its food, either by perching on a tree or bush overlooking the water, or by beating back and forth above the surface, keeping a sharp lookout for fishes beneath, which form a large part of its food. When the fish is spied the bird poises on rapidly beating wings and suddenly darts down to the surface of the water, plunges in, catches the fish in its bill and bears it away either to a suitable perch for a repast for itself or to its young. A fish which is small enough the bird can easily swallow by taking care always that the fish starts down the throat head first. As with a great many other birds the indigestible parts of the fishes are disgorged in the form of pellets. In

addition to fishes this bird eats various kinds of crustaceans, together with large insects such as grasshoppers, crickets, and beetles, as well as such other animals as lizards, and frogs, and even mice.

The breeding of this bird is one of the most interesting features of its life history. Seeking a bank, either natural or artificial, where it is not likely to be disturbed, the bird digs a tunnel which ordinarily is three or four feet in length, but sometimes as long as 12 feet, nearly level, and at right angles with the face of the bank, but on a slight upward incline, so that in case the nest should be flooded it would drain out again. At the end there is a chamber some 12 to 15 inches wide and a little higher than the diameter of the burrow, which is usually large enough easily to admit the bird. In this chamber the eggs are laid and the young reared on a bed of a few fish bones and scales, which usually make up the nest, although sometimes leaves, grasses, and weed-stalks are used. The usually five to eight eggs are pure white and glossy. It takes about two and one-half weeks to hatch the eggs; the young are at first helpless and therefore remain in the nest for a considerable time.

The Eastern Belted Kingfisher is a fairly common permanent resident over practically all of Louisiana; but in the southern part of the State it is much more numerous in winter than in summer. It has been reported north to Lake Providence, Oak Grove in West Carroll Parish, Mer Rouge, Monroe, Bienville, and Bossier Parish; west to Caddo Parish, Mansfield, Natchitoches, and Black Bayou in Cameron Parish; south to Calcasieu Lake, Grand Chenier, Chenier au Tigre, Little Wax Bayou, Avoca Island, Lake Barre, Lake Felicity, Grand Isle, the Delta Duck Club on Octave Pass in the Mississippi River Delta, Johnson Pass, Codro Pass, and Pass a Loutre in the Mississippi River Delta; and east to Main Pass in the Mississippi River Delta, Junior, Belair, Lake Catherine, Mandeville, Amite, Clinton, Bains, Jena, and Tallulah. It breeds from March to May; and there is a record of eggs taken on April 16.

Ned Hollister reported it common in Morehouse, West Carroll, East Carroll, and Madison parishes, February 11 to March 20, 1904; and Vernon Bailey noted it at Mer Rouge, June 7, 1892. A specimen from Prairie Mer Rouge, taken in 1853, was sent thence to the Smithsonian Institution by J. Fairie. J. S. Campbell regards it as a common permanent resident in Bienville Parish. A. H. Howell saw it at Mansfield between April 26 and May 3, 1907; and the writer found it at Natchitoches, June 19, 1933. S. H. Campbell noted it common at Oak Grove in West Carroll Parish on December 23, 1934. The writer observed it on Black Bayou in Cameron Parish, January 27, 1928; on Calcasieu Lake, December 30 and 31, 1932; at Grand Chenier, December 30, 1932; on the lower Vermilion River, January 22, 1928, and common in the same locality, January 30, 1932; on the Rainey Wild Life Sanctuary, January 22 and 23, 1928; Little Wax Bayou, January 28, 1932; Avoca Island, January 28, 1932; Lake Barre and Lake Felicity, December 23, 1932; in the Mississippi River Delta at the Delta Duck Club on Octave Pass, January 19, 1928, and January 21, 1932; on Johnson Pass, December 17, 1932; Codro Pass, December 18, 1932; Pass a Loutre, December 17, 1932; and at Chateau Canard on Main Pass, December 19, 1932. H. H. Kopman noted it at Junior, August 4 and 5, 1917; and Ned Hollister, at Belair, March 25 to April 8, 1904. George E. Beyer reported it as breeding at Clinton and Madisonville about 1891; and H. H. Kopman from Amite as observed on March 27, 1918. Robert Butler found it resident and breeding at Bains in 1930; the writer observed it at Jena, June 16, 1933; and E. R. Kalmbach noted it at Tallulah several times between June 13 and July 13, 1924. Ambrose Daigre reported it from Grand Isle on April 30, 1936. Specimens in the museum of Tulane University were taken at New Orleans, August 12, 1864; on Deer Range Plantation in Plaquemines Parish, in December, 1862, on October 10, 1863, and February 1, 1863.

Order **PICIFORMES**Family **PICIDAE****SOUTHERN FLICKER***Colaptes auratus auratus* (Linnaeus)

Among all the forest wild inhabitants the woodpeckers are among the most desirable from man's point of view, since most of the species are decidedly beneficial by reason of their destruction of injurious forest insects.

There is perhaps no North American bird that has so many English names as the subject of the present sketch. The number known is now well over one hundred. Among the commonest of these are 'flicker', 'yellow-shafted flicker', 'highhole', yellow hammer', 'golden-winged woodpecker', 'yarrup', and 'clape'. It is one of our largest woodpeckers, and readily distinguished by its somewhat curved bill, white rump, light colored lower parts with round black spots, and a large black breast patch, together with the yellow shafts of its wings and tail-feathers, which show well in flight.

It lives not only in the forests but also in the more open country and in cultivated areas. In fact, it is likely to be found almost anywhere, even in the streets of towns. While it is a tree-loving bird, it, more than almost any other woodpecker, regularly alights on the ground, usually for the purpose of feeding, and, unlike most woodpeckers, it frequently perches crosswise on a branch. At certain times during migration it may be found in flocks of loose companies of considerable size, sometimes alone, sometimes accompanied by other birds. Its flight is strong and powerful, and capable of being long sustained, and, like so many of the woodpeckers, it is distinctly undulating. It has a number of loud calls, which have been variously represented by words. Perhaps one of those most frequently heard in the spring sounds something like 'wickah, wickah', or simply 'wick, wick, wick, wick.'

The food of the Flicker is rather varied. The bird eats a great many ants, which it obtains by perching on the

ground close to an ant hole and picking up the ants as they appear. As many as 5,000 ants have been found in the stomach of a single bird. In addition it consumes a great many grasshoppers, crickets, bugs, beetles, spiders, crustaceans, and myriapods; at times considerable vegetable matter consisting of wild fruits, such as wild cherries, and poison ivy, but rarely ever any cultivated fruit; some weed seeds, corn, and a little inner bark of trees. One of its services to man is at times its destruction of the European corn borer.

This bird breeds in orchards, woodlands, or in various shade trees, digging a hole for itself in a tree or post, or using part of a building or any other suitable place, even once in a while a nest-box put up for the purpose, and occasionally a cavity in a bank or cliff. When the nest is hollowed out in a tree it is usually from several inches to sometimes two feet deep. The eggs are laid in the bottom of the cavity, with little attempt at a nest except for a few fine chips of wood. The eggs are pure white, unmarked, and very glossy, and are usually five to nine in number, sometimes many more, and if an egg each day be removed from the nest as the bird is laying she will sometimes continue until a large number of eggs have been produced. The parents incubate for about two weeks, and the young are fed by both the parents on regurgitated predigested food for a considerable time of their life in the nest, where the young remain until they are nearly able to fly.

The Southern Flicker is a permanent resident, rare in summer, fairly common at other seasons, throughout Louisiana. It has been reported north to Lake Providence, West Carroll Parish, Prairie Mer Rouge, Monroe, and Caddo Lake; west to Cross Lake near Shreveport, Gayle, Frier-son, Logansport, Natchitoches, Fort Jesup, Anacoco, Gillis, Lake Charles, Vinton, Black Bayou in western Cameron Parish, and Calcasieu Lake; south to Cameron, Grand Chenier, Avery Island, the lower Vermilion River, Chenier au Tigre, Pilot Town, and Dead Woman Pass in the Mississippi River Delta; and east to Main Pass in the Mississippi River Delta,

Junior, Belair, New Orleans, Bayou Loutre in Saint Bernard Parish, Slidell, Mandeville, Madisonville, Covington, Franklinton, Hackley, Clinton, Bains, Richland Parish, and the Singer Preserve southwest of Tallulah. It breeds chiefly during May and June.

The southern race of the Flicker is evidently the breeding bird of all Louisiana, since specimens have been examined in the present connection from Jefferson Parish, February 17, 1932; New Orleans, February 12, 1933; Hackley, February 24, 1912; Mandeville, spring of 1878, and autumn, no date; Madisonville, February 16, 1886; Franklinton, May 28, 1888; Lewisburg, October 8, 1874; Abbeville, December 12, 1932; New Orleans, August 10, 1935; and Logansport, August 27, 1906. Since the Northern Flicker is not distinguishable in the field from the southern bird, it may be that those of the autumn and winter records of the Flicker below given as belonging to the southern race are wholly or in part referable to the Northern Flicker. From present data it is not now possible to determine which form of the Flicker is more common in winter in Louisiana, so this determination must rest on further collecting of specimens.

The writer observed the Southern Flicker at Caddo Lake and Cross Lake, June 18, 1933; at Natchitoches, Fort Jesup, Anacoco, Longville, Gillis, and Lake Charles, June 19, 1933; and at Vinton, June 20, 1933. Flickers, probably of this form, were seen by the writer at Calcasieu Lake, December 30 and 31, 1932; by W. L. McAtee at Cameron, December 1, 1910; by the writer at Grand Chenier, December 31, 1932; and at Avery Island, December 28, 1932. He also observed it at the last mentioned locality on June 21, 1933. Eggs collected at Avery Island are in the museum of Tulane University. The writer found flickers on the lower Vermilion River, January 22, 1928; on the Mississippi River near the Pass a Loutre Hunting Preserve, January 23, 1932; on Dead Woman Pass, Mississippi River Delta, December 18, 1932; and at the Delta Duck Club on Octave Pass, January 19, 1928. He observed this species also at Pilot Town and on Main Pass in the Mississippi River Delta, June 7,

1933. H. H. Kopman noticed it at Junior, August 4 and 5, 1917; and Ned Hollister, at Belair, March 25 to April 8, 1904. A. H. Howell recorded it from Slidell, October 28 to November 1, 1908; from Covington, November 2 to 3, 1908; and H. H. Kopman, from Mandeville, August 18, 1917. George E. Beyer reported it breeding at Clinton about 1901; and Edward Butler as breeding at Bains in 1916 and 1919. E. L. Moseley found it in Richland Parish, March 31, 1923; and the writer observed it on the Singer Preserve on the Tensas River 13 miles southwest of Tallulah, June 17, 1933. E. R. Kalmbach discovered one individual on the Cameron Farm 14 miles south of Vinton on May 30, 1919; Vernon Bailey reported it fairly common, and noticed a pair digging a nest hole on April 8, 1899, at Iowa (La.). The writer also noted the Southern Flicker on Little Barataria Bayou, June 10, 1933; and at Welsh, June 20, 1933.

NORTHERN FLICKER

Colaptes auratus luteus Bangs

The Northern Flicker is a winter resident, from October 14 to May 23, at least fairly common in probably all of Louisiana, but authentically reported only north to Monroe; west to Mansfield, Natchitoches, and Many; south to Lewisburg and New Orleans; and east to Mandeville, Madisonville, and Covington.

Since the well-known Northern Flicker is not identifiable in the field from the Southern Flicker, it is probably of more frequent occurrence than the records of specimens examined in the present connection would indicate. The first certain record of this subspecies from the State was a bird banded in the State of Iowa, and taken by J. E. Ross at Many, La., December 25, 1905.¹⁶ The writer has seen specimens from Belcher, February 6, 1908, A. H. Howell; Mansfield, April 27, 1907, A. H. Howell; Lecompte, January 14 and February 10, 1908, A. H. Howell; also Lewisburg, October 14, 1874, Mandeville, October 16, 1876, Madisonville, February 16, 1886, and Covington, May 23, 1888, in the museum of

¹⁶Taverner, Wilson Bulletin, Vol. XVIII, No. 1 March, 1906, p. 21.

Tulane University; New Orleans, January 1, 1933, in the museum of the Louisiana Department of Conservation at New Orleans; and Chenier au Tigre, January 5, 1934, A. M. Bailey. There is also a specimen in the latter museum taken in Louisiana without further indication of locality or date. In addition to this, the three or four individuals seen at Natchitoches by A. H. Howell between January 16 and 21, 1908, probably belong to this northern race. George H. Lowery, Jr., reported on February 23, 1931, at Monroe, a flight of birds which doubtless were of this subspecies, although he took no specimens.

BOREAL FLICKER

Colaptes auratus borealis Ridgway

The Boreal Flicker is a rare, possibly only casual, winter resident in Louisiana, recorded only in December in the southern part of the State.

The only record for the State up to the present time is a single female collected by Thomas D. Burleigh at New Orleans on December 21, 1935. This race, however, may be more common in the State than the few records indicate, since it can be identified only from specimens.

The Boreal Flicker was described by Robert Ridgway,¹⁰⁵ from Alaska. It differs from the Northern Flicker, *Colaptes auratus luteus*, in its larger size, which is most evident in the wing. Measurements of males of this form, taken by Mr. Ridgway, are as follows: wing, 156-170 (average, 162.9) mm.; tail, 102.5-115 (107); exposed culmen, 34.5-40 (36.4); tarsus, 27-31.5 (29). The females are approximately of the same size. Average measurements of *Colaptes auratus luteus* (males) are as follows: Wing, 156.3 mm.; tail, 105.9; exposed culmen, 34.6; tarsus, 28.1. This northern race breeds in northern North America from northern Quebec (Ungava), Mackenzie, and Alaska, south to Alberta, Saskatchewan, and Labrador, in winter occurring as far south as California, Texas, Louisiana, and Florida.

¹⁰⁵Proc. Biol. Soc. Washington, Vol. XXIV, February 24, 1911, p. 31.

SOUTHERN PILEATED WOODPECKER

Phloeotomus pileatus pileatus (Linnaeus)¹⁰⁰

Except for the Ivory-billed Woodpecker, the Pileated Woodpecker is our largest bird of this family. In one of its forms it occurs throughout a considerable part of North America from Florida to Canada. It has a number of different names, such as 'woodcock', 'logcock', 'cock of the woods', and even 'woodchuck'. It is about 18 inches in length, mostly dark slate color, which looks black at a little distance, with a broad white stripe down the sides of the neck, a bright red crest, and white patches in the wings.

It is distinctly a bird of the heavy forests, and while occasionally it is found in the more open areas, it is then ordinarily but passing from one woodland to another. Its flight is less undulating than that of many woodpeckers, and not remotely resembles that of the Crow. It is, however, rather strong on the wing, and is capable of sustained flight. It is ordinarily a shy bird with a voice very much resembling that of the Flicker but louder.

With its powerful build it is able to obtain without difficulty the burrowing larvae that infest the forest trees, and these insects, together with various beetles, ants, and other similar insects, form a substantial part of its food. In addition to these it lives to a considerable extent on wild fruits, such as that of the dogwood, pokeweed, service bush, and on wild grapes, acorns, chestnuts, and beechnuts.

This bird breeds ordinarily in various kinds of heavy forests, sometimes in smaller timber. The nest is excavated by the birds, usually in a trunk of a tree or stub, sometimes at a considerable height from the ground. The cavity is in some instances nearly three feet deep, and the entrance is a hole some three or four inches wide. The only nesting material consists of fine pieces of wood that have resulted from the nest building operations of the bird. The eggs are white, usually about four or five in number, and are hatched in about two and one-half weeks.

¹⁰⁰*Ceophloeus pileatus pileatus* of the 1931 A. O. U. Check-List.

This large, though far from conspicuous, bird, because so retiring, is a very interesting inhabitant of the forest lands of Louisiana. Owing to the fact that by the destruction of the forests the bird is likely to disappear, it is well worth while for the sake of the preservation of such an interesting inhabitant of the State that care be taken to save areas of forests that are suitable for its home.

The Southern Pileated Woodpecker is locally a fairly common permanent resident in the heavy forests of most of Louisiana, though rare over much of the State and not recorded in the southwestern section. It has been reported north to Oak Grove in West Carroll Parish, Prairie Mer Rouge, Monroe, Bienville Parish, and Bossier Parish; west to Caddo Parish, and the lower Vermilion River in Vermilion Parish; south to the Rainey Wild Life Sanctuary, Vermilion Bay, Avery Island, Saint Martinville, Houma, Bayou Des Allemands, and New Orleans; and east to the Pearl River, Mandeville, Madisonville, Clinton, Franklinton, Saint Francisville, Bains, Simmesport, Trout, and Tallulah.

All the specimens examined in the present connection from Louisiana belong to the southern race, and there is no certain record of the northern bird from the State. The writer has seen specimens from Lewisburg, October 14, 1874; Marrero, near New Orleans, no date; New Orleans, February 10, 1894; Frellsen, February 2, 1890; Mandeville, February 25, 1874, and January 25, 1894; Franklinton, May 26, 1888; and Tallulah, February 20, 1904. In addition there were specimens sent to the Smithsonian Institution, collected in 1853 at Prairie Mer Rouge by J. Fairie, and in Jefferson Parish, January 12, 1899, by J. Smiley. A single bird was taken by A. M. Bailey at Melville on January 1, 1918. The writer observed this species on the lower part of the Vermilion River in Vermilion Parish, January 22, 1928; and on the Rainey Wild Life Sanctuary on the same date. J. W. Trahan reported it from Vermilion Bay, April 26, 1919; H. H. Kopman from Bayou Martin, near Saint Martinville, August 9 to 12, 1917; from Bayou Des Allemands, between June 19 and 21, 1917; also from Mandeville, August

18, 1917. George E. Beyer noted it as breeding at Madisonville and Clinton about 1891; and H. Wurzlow, from Houma about the same time. Robert Butler said that it bred at Bains in 1930; and H. H. Kopman observed it at Simmesport, August 31 to September 2, 1917. J. S. Campbell considers it a fairly common resident of the heavily wooded areas of Bienville Parish. The writer found it unusually numerous, observing 14 in one forenoon, June 17, 1933, on the Singer Preserve along the Tensas River 13 miles southwest of Tallulah; and saw it also at Trout, June 16, 1933, as well as at Lottie, June 15, 1933. One individual was noted by the writer along the Pearl River near its mouth, but on the Mississippi side, June 27, 1933. Examples were collected by A. M. Bailey at Lydia on December 2 and 5, 1925; by J. T. Sepulvado at Egan on April 14, 1937; and by Ambrose Daigre at Lottie, November 23, 1937 (examined by the writer).

RED-BELLIED WOODPECKER

Centurus carolinus (Linnaeus)

The present unusually handsome member of the woodpecker family is a more southern bird than many of our woodpeckers, ranging northward only to extreme southern Ontario, but occupying most of the eastern United States. It is a bird about the size of the Red-headed Woodpecker, grayish or buffy white below, with upper parts barred with black and white, and a wholly or partly red top of the head and back of the neck.

While it is a forest bird, it is found also in the more open country, even along highways and in cultivated areas, although its chosen resort in some localities is the timber along streams. It is rather noisy and its notes are similar to those of the Red-headed Woodpecker.

It lives chiefly on insects, such as caterpillars, bugs, beetles, ants, grasshoppers, flies, and their larvae, but particularly in the colder season it feeds to a considerable extent on plant seeds, bechnuts, acorns, berries, and other kinds of wild fruit, including cherries and apples.

It makes a hole for its nest in a tree or stub or similar place, and the cavity is often about a foot deep. The eggs are usually about four, white, without markings. Incubation lasts about two weeks, and apparently both of the birds assist in this. The parents are rather unusually solicitous for the nest, whether it contains eggs or young, notwithstanding the fact that the bird is shy and ordinarily relatively difficult to observe.

The Red-bellied Woodpecker is a fairly common permanent resident in the woodlands of most of Louisiana, reported north to Lake Providence, Oak Grove in West Carroll Parish, Mer Rouge, Monroe, Foster, and Belcher; west to Caddo Parish, Mansfield, Logansport, Natchitoches, and Black Bayou in Cameron Parish; south to Bayou Queue de Tortue north of Gueydan, 12 miles southeast of Kaplan, the lower Vermilion River, Vermilion Bay, Avery Island, Houma, Bayou La Fourche, and Buras; and east to New Orleans, Pearl River, Mandeville, Madisonville, Hackley, Clinton, Saint Francisville, Bains, Simmesport, Trout, Frogmore, Singer Preserve on the Tensas River in Madison Parish, Tallulah, and East Carroll Parish. It breeds from April to June; and there is record of eggs on June 10.

At Mer Rouge Vernon Bailey found this species the most common woodpecker from June 2 to 7, 1892; and A. H. Howell saw it at Foster, January 27 to 31, 1906; at Belcher, February 3 to 8, 1908; at Mansfield, April 26 to May 3, 1907; at Logansport, August 25 to 27, 1906; and at Natchitoches, January 16 to 21, 1908; and J. S. Campbell regards it as a common permanent resident of Bienville Parish. E. R. Kalmbach reported it common along the Bayou Queue de Tortue, north of Gueydan, May 17 and 31, 1925; and at a point 12 miles southeast of Kaplan, September 4, 1925. The writer found the species on Black Bayou in Cameron Parish, January 27, 1928; on the lower Vermilion River, January 22, 1928; and at Avery Island, December 28, 1932. J. W. Trahan saw it at Vermilion Bay, April 26, 1919; and Vernon Bailey noted it common at Houma, May 4 to 16, 1892. H. H. Kopman reported it present on Bayou La

Fourche, August 24, 1917; and Ned Hollister, at Belair, March 25 to April 8, 1904. George E. Beyer in 1891 stated that it was common and breeding at both New Orleans and Clinton. A. H. Howell observed it at Hackley, February 20 to 24, 1912; and H. H. Kopman, at Simmesport, August 31 to September 2, 1917. Edward Butler reported its breeding at Saint Francisville in June, 1915; and at Bains in May, 1916. E. R. Kalmbach found it common at Tallulah, June 13 to July 13, 1924; and Ned Hollister reported it from East Carroll and West Carroll parishes, March 6 to 13, 1904. The writer observed it on Honey Island, near the town of Pearl River, June 27, 1933; at Trout and Frogmore, June 16, 1933; and unusually numerous on the Singer Preserve on the Tensas River 13 miles southwest of Tallulah in Madison Parish, June 17, 1933. E. G. Wright obtained examples of this woodpecker at Avery Island, May 11 and 21, 1930; and specimens have been examined in the Biological Survey collection and others in the collection of the museum of Tulane University at New Orleans, from Lecompte, January 14, 1908, A. H. Howell; Rayne, January 22, 1889, and December 14, 1888; Bedico River, August 6 and 18, 1890, May 20 and July 15, 1888; Madisonville, April 18, 1886, July 1, 1888, and August, 1889. C. L. Hunt collected it at Mandeville on February 22, 1918; George K. Cherrie at Buras on February 4, 1896; George H. Lowery, Jr., at Carr's Creek in Jackson Parish, April 25 and May 30, 1937; and J. T. Sepulvado at Egan on May 9, 1937.

EASTERN RED-HEADED WOODPECKER

Melanerpes erythrocephalus erythrocephalus (Linnaeus)¹⁰⁷

This is one of the most beautiful species of woodpeckers in Louisiana. Its red, white, and bluish black plumage makes it a conspicuous object. Its head and neck all around are bright red, and the back, wings, and tail are metallic blackish blue, with large white patches in the wings, and the posterior lower parts are white.

¹⁰⁷*Melanerpes erythrocephalus* of the 1931 A. O. U. Check-List.

It is an inhabitant of all kinds of country, not only the deep forests but also the more open country, and cultivated areas as well. In fact it not infrequently takes up its home in the streets and parks of the towns. It is frequently seen along the highways, where it often flies down on to the road for purposes of obtaining food, and, owing to its rather slow flight, it often is the victim of highway accidents. Many of these birds are destroyed in this way. It has a number of different calls, among the best known of which is a note that has been represented by the syllables 'ker-r-r-ruc', often several times repeated. It is more of a migratory bird than most of our woodpeckers and in the autumn disappears largely from the northern part of its range in the United States, although a few individuals usually remain to brave the winter.

The diet of this bird consists in part of various kinds of insects, such as beetles, ants, grasshoppers, and flies, some of which it catches on the wing, and others it digs out of the wood of the trees. A good part of its food is also made up of various kinds of fruits and berries, such as apples, cherries, grapes, mulberries, blackberries, and elderberries. It likewise takes some corn, beechnuts, acorns, and small grains. A rather unusual item of its food is made up of the eggs and young of other birds. It will frequently raid the nest of other woodpeckers, swallows, nuthatches, and other similar birds.

The nest is excavated in a dead trunk or branch of a tree, in a stump or post, or similar place. Its eggs are usually four to six, white, but not so glossy as those of the Flicker. Both of the parents assist in the incubation, which lasts about two weeks. Usually only one brood is reared.

The Red-headed Woodpecker is a common permanent resident throughout most of Louisiana, wherever there are trees; therefore, in the breeding season it is absent from the open marshes of the Gulf Coast district. It has been recorded north to Lake Providence, Oak Grove in West Carroll Parish, Mer Rouge, Delhi, Holly Ridge, Rayville, Monroe, Bienville Parish, and Belcher; west to Caddo Lake,

Cross Lake, Shreveport, Taylortown, Mansfield, Logansport, Natchitoches, Robeline, Fort Jesup, Anacoco, Longville, Gillis, and Vinton; south to Calcasieu Pass, Lake Charles, Jennings, New Iberia, Avery Island, Rainey Wild Life Sanctuary, Cypremort, Houma, Bayou La Fourche, and New Orleans; and east to Mandeville, Madisonville, Bedico River, Franklinton, Clinton, Saint Francisville, Simmesport, Frogmore, Lake St. John, Waterproof, Newellton, Quimby, Thomastown, and Tallulah. It breeds chiefly from May to July.

All the specimens of this species examined in the present connection belong to the eastern race of the Red-headed Woodpecker. It is entirely possible, however, that the western bird may occur in the State as a rare winter visitor. The writer has seen specimens of the eastern bird in the museum of Tulane University, from Vinton, December 19, 1896; Como, Franklin Parish, July 20, 1897; Cypremort, June 24, 1895; Mandeville, May, 1886, January 28, 1873, and April 11, 1875; Madisonville, May 16 and 17, 1888, May 29, 1886, and July 3, 1888; Bedico River, August 16, 1890; Clinton, June 6 and 10, 1888; and Franklinton, May 25, 1888; and in the Biological Survey from New Orleans, collected by T. D. Burleigh, August 19, 1935. Two specimens, now not to be found, were collected by G. Würdemann in the spring of 1854 at Calcasieu Pass, and sent by him to the Smithsonian Institution. An individual of this species struck the Southwest Reef Lighthouse at the entrance to Atchafalaya Bay, October 23, 1908. There are eggs in the United States National Museum collected at Grand Coteau, June 3, 1887.

Vernon Bailey found this species common and breeding at Mer Rouge, June 2 to 7, 1892; H. H. Kopman, very common at Thomastown, July 13 to 28, 1896; and E. R. Kalmbach, also very common at Tallulah, June 13 to July 13, 1924. S. H. Campbell reported 11 individuals seen at Oak Grove on December 23, 1934. A. H. Howell observed it abundant at Mansfield, April 26 to May 3, 1907; and at Logansport, August 25 and 27, 1906, where he collected specimens on both these dates. A. M. Bailey obtained a

specimen at Chenier au Tigre on March 10, 1931. H. H. Kopman noted it at Jennings, January 30 to 31, 1918; at New Iberia, May 27 to June 9, 1918; at Bayou La Fourche, August 24, 1917; at New Orleans, January 15, 1897; and at Simmesport, August 31 to September 2, 1917. George E. Beyer reported it breeding at Clinton in 1891; and Edward Butler, at Saint Francisville in 1915. The writer observed this species at Delhi, Holly Ridge, and Rayville, June 17, 1933; at Caddo Lake, Cross Lake, Shreveport, and Taylortown, June 18, 1933; at Natchitoches, Robeline, Fort Jesup, Anacoco, Longville, Gillis, and Lake Charles, June 19, 1933; at Vinton, June 20, 1933; New Iberia and Avery Island, June 21, 1933; the Rainey Wild Life Sanctuary, January 22, 1928; Houma, June 23, 1933; Frogmore, Lake Saint John, Waterproof, Newellton, and Quimby, June 16, 1933.

SOUTHERN YELLOW-BELLIED SAPSUCKER

Sphyrapicus varius varius (Linnaeus)

The Southern Yellow-bellied Sapsucker is a rare winter visitor in southern Louisiana.

The only records for the State are a single male without date in the museum of Tulane University, collected at Mandeville; and a female, taken on February 26, 1891, in Jefferson Parish.

NORTHERN YELLOW-BELLIED SAPSUCKER

Sphyrapicus varius atrothorax (Lesson)

This is a forest bird, living in either deciduous or evergreen trees, in swamps, also in timber along the rivers, or even at times in cultivated areas.

In food habits this bird differs considerably from most of the other woodpeckers. It regularly punctures the branches and trunks of trees with rows of holes, which allow the sap of the tree to run out, sometimes to a considerable extent. On account of this the trees are sometimes seriously damaged. The flowing sap attracts many insects, which form part of the food of this bird. It thus develops that the bird is a real sapsucker, living not only

on the inner bark of the trees but on the sap itself, as well as on various insects, such as beetles and ants, and their larvae, part of which they dig out of the wood, but usually they do not dig into the bark as deeply as do the other woodpeckers. At times the bird feeds on different kinds of berries, such as strawberries, blackberries, blueberries, grapes, sorghum, and dogwood, and at times even on acorns, nuts, and a little grain. The habit that the bird has of puncturing the bark and allowing the sap to escape becomes more serious when these operations are extended to orchard trees.

It excavates its nest in the dead branch or trunk of a tree, occasionally even in living wood, a telegraph pole, or similar post. The cavity, enlarged at the bottom as most woodpeckers' homes are, is sometimes as deep as a foot and one-half, with the entrance horizontal in the side of the trunk or branch, as the case may be, but the cavity is nearly always vertical. There are usually five to seven eggs, which are pure white, unmarked; and about two weeks are required for their incubation.

Yellow-bellied Sapsuckers from the northern United States and Canada are decidedly larger than the breeding birds of the middle eastern United States, and deserve sub-specific recognition. Males of the northern race measure: wing, 121-128.5 (average, 124.5) mm.; tail, 61.5-77 (69.2); exposed culmen, 20-25 (22.4); tarsus 18-21 (19.6); middle toe without claw, 15.5-17 (16).

This northern form breeds from southern Quebec and central Mackenzie south to central Missouri, New York, and New England; and winters from Wisconsin and Massachusetts south to Florida and Louisiana.

Breeding birds from northeastern Ohio and from Pennsylvania are intermediate between the northern and southern forms, but apparently average somewhat nearer the southern. Measurements of males of the southern race average: wing, 120.8 mm.; tail, 70.8; exposed culmen, 21.8.

The earliest name for the species, *Sphyrapicus varius* (Linnaeus), applies to the southern race. For the northern bird there is available *Sphyrapicus varius atrothorax*. (Lesson).¹⁶⁸ The type of this in the Paris Museum has been kindly measured by Mr. Jacques Berlioz, and proves to belong to the northern form. It came from Newfoundland.

This is the prevailing race in Louisiana, as would be expected from its range, and all the field observations in this State are included under the present form.

The Northern Yellow-bellied Sapsucker is a fairly common winter resident, from October 8 to April 11 (in southern Mississippi, April 16), in the wooded portions of Louisiana, but is apparently absent from the marshes of the coast of the Gulf of Mexico. It has been reported north to Lake Providence, Oak Grove in West Carroll Parish, Monroe, Bienville Parish, and Belcher; west to Shreveport, Mansfield, Natchitoches, and Grand Chenier; south to Grand Chenier, Chenier au Tigre, the Rainey Wild Life Sanctuary, Avery Island, Calumet Plantation near Patterson, Morgan City, Grand Isle, and Belair; and east to Marrero near New Orleans, New Orleans, Mandeville, Covington, Bedico River, Richland Parish, and Tallulah.

Specimens of this subspecies have been examined from Marrero, no date; New Orleans, November 24, 1891, December 1, 1936; and February 12, 1894; Bedico River, January 7, 1890; Covington, November 13, 1889; Ascension Parish, December 1, 1916; Grand Isle, April 1, 1931, April 6 and 24, 1937; Chenier au Tigre, March 10, 1931, December 10 and 15, 1925, January 28, 1928, and January 1, 1934; and Lewisburg, October 8 and November 8, 1874. H. H. Kopman observed it at Belair, October 21, 1917; Ambrose Daigre at Grand Isle, April 6 and 11, 1936; and E. L. Moseley reported it, April 1, 1923, in Richland Parish. The writer saw a single individual at Grand Chenier, December 30, 1932. J. S. Campbell gives it as a winter resident of Bienville Parish, from October to March.

¹⁶⁸ *Picus atrothorax* Lesson, *Traité d'Ornith.*, 1831, p. 229

SOUTHERN HAIRY WOODPECKER*Dryobates villosus audubonii* (Swainson)

This bird, sometimes called, though erroneously, 'big sapsucker', is somewhat larger than the Yellow-bellied Sapsucker, being about nine or ten inches long. It occupies only the southern states, its place being taken in the more northern half of the United States by the Northern Hairy Woodpecker. There is no such distinction between the Hairy Woodpecker and the Downy Woodpecker as is indicated by their names, the term 'hairy' having no real significance as applied to the present bird. It is white below, black above, with two white stripes on the side of the head, and a broad white stripe down the center of the back, and many white spots on the black wings. The small crescent of red on the back of the head in the male adds a touch of color to the otherwise plain appearance of this woodpecker.

The Southern Hairy Woodpecker is rather partial to woodland areas, but occurs also in more open country, such as scattered timber along streams, and even cultivated areas, but rarely in the streets or parks of towns. It is seen usually singly or in pairs, and is rather a retiring bird, much more so than either the Flicker or the Downy Woodpecker. Its flight is strong and swift and usually undulating. It has a harsh call that sounds a little like that of the Downy Woodpecker, but is louder and coarser.

By reason of the nature of its food it is a decidedly beneficial species, since it lives a great deal on boring beetles which destroy trees. In addition to this it consumes various other insects such as ants and flies; also spiders, nuts, acorns, various kinds of seeds and grains.

It builds its nest usually in a forest tree, often in the living wood in a cavity excavated by itself; sometimes it nests in orchards. The nest is in either a branch or the trunk of a tree, and is similar to that of other woodpeckers, a gourd-shaped excavation that is sometimes over a foot deep, with the entrance, of course, at the top. The usually four eggs are plain white, without markings. At the nest

the parents are very secretive, and at the approach of anyone they disappear quietly and do not return until they are pretty sure that the coast is clear.

The Southern Hairy Woodpecker is a fairly common permanent resident in the wooded regions of all Louisiana, but is absent from the open marsh country of the Gulf Coast. It has been reported north to Oak Grove in West Carroll Parish, Mer Rouge, Monroe, Bienville, and Bossier Parish; west to Caddo Lake, Natchitoches, and Iowa (La.); south to Saint Martinville, Houma, Little Barataria Bayou, Bayou Des Allemands, and Buras; and east to Jefferson Parish, New Orleans, Oaklawn, Mandeville, Madisonville, Covington, Hammond, Clinton, Saint Francisville, Bains, Simmesport, the Singer Preserve 13 miles southwest of Tallulah on the Tensas River in Madison Parish, and Tallulah. This bird breeds chiefly from March to May.

All the specimens of the Hairy Woodpecker from Louisiana examined in the present connection belong to the southern race. It is quite possible, however, that the northern bird occurs in northern Louisiana as a rare winter visitor. Specimens of the southern race examined are from Natchitoches, January 17, 20, and 21, 1908, A. H. Howell; Houma, May 12, 1892, Vernon Bailey; Belair, April 1, 1904, Ned Hollister; New Orleans, November 9, 1935, and September 19, 1935; all these in the Biological Survey collection of the United States National Museum; Mandeville, no date, Gustave Kohn; Madisonville, May 15, 1886, and August 29, 1890; Covington, November 17, 1889; and Hammond, November 21, 1875; all in the museum of Tulane University. Also in the Field Museum of Natural History there is a bird from Buras obtained on February 4, 1896, by G. K. Cherrie.

Vernon Bailey found this bird not uncommon at Mer Rouge, June 2 to 7, 1892; Ned Hollister reported it from the same locality and in the same region eastward to the Mississippi River, February 11 to 16, 1904; and J. S. Campbell has found it breeding near Bienville, Lucky, and Liberty Hill, in Bienville Parish. Vernon Bailey saw a pair in the pine timber a mile east of Iowa (La.), April 6 to 9, 1899.

H. H. Kopman reported it along Bayou Teche near St. Martinville, August 9 to 12, 1917; at Oaklawn near Lacombe, August 17, 1917; and at Mandeville, August 18, 1917. The writer observed it at Little Barataria Bayou on June 10, 1933; at Des Allemands, June 23, 1933; and at Caddo Lake, June 18, 1933. A bird collected in Jefferson Parish, May 3, 1898, by Andrew Allison, was sent to the United States National Museum. George E. Beyer reported it in 1891 as breeding in the vicinity of New Orleans and at Clinton; Ned Hollister found it fairly common at Belair, March 25 to April 8, 1894; and Edward Butler noted it as breeding at Saint Francisville in 1915, and at Bains in 1916. H. H. Kopman listed it, August 31 to September 2, 1917, at Simmesport; and the writer found it on the Singer Preserve along the Tensas River, June 17, 1933.

SOUTHERN DOWNY WOODPECKER

Dryobates pubescens pubescens (Linnaeus)

The Downy Woodpecker is but a small edition of the Hairy Woodpecker, differing in color only in that the outer tail-feathers instead of being wholly white are barred with black. As in the case of the word 'hairy' in the name of the Hairy Woodpecker it might be explained that the word 'downy', which is a part of this bird's name, has no special significance, since the feathers of this bird are of the same structure as those of other woodpeckers. It is also sometimes erroneously called 'little sapsucker', but it is in no sense a feeder on sap, all the holes that it makes in the trees being for the purpose of obtaining insects from the bark or outer wood.

It is less of a deep forest bird than is the Hairy Woodpecker, living much of the time in orchards and about cultivated areas, as well as in woodlands. It is frequently seen on low bushes, although it does not apparently very frequently descend to the ground. Like other woodpeckers it is exceedingly active about the trunks and branches of the trees, and moves rapidly and surely in whichever direction it wishes to go. It is one of the most common and best

known of all our woodpeckers and is likewise one of the most useful. Its ordinary call consists of several notes which have been represented by the syllable 'tchee' several times repeated on a somewhat descending scale.

The food of this bird consists largely of various kinds of insects, their eggs and larvae, and it consumes a large number of injurious beetles, caterpillars, and similar insects, plant lice and bark lice, as well as spiders. In addition, when insect food is scarce or difficult to obtain, it lives on seeds, wild berries, apples, acorns, beechnuts, and a very small amount of corn.

Its nest is built frequently in orchards or in shade trees, sometimes, though less commonly than the Hairy Woodpecker, in heavy forest lands. It is a hole dug by the birds in a branch or trunk of a tree, sometimes but a few feet from the ground, but ordinarily a considerable distance above. Little or no nest material is used, except a few fine chips from the operation of excavating. The usually four or five eggs are white, unmarked. In the winter this bird either excavates a home for itself in a branch or trunk of a tree, where it can be safe from storms, or it appropriates one already made.

The Southern Downy Woodpecker is a fairly common permanent resident throughout Louisiana, wherever there are trees. It has been reported north to Lake Providence, Oak Grove in West Carroll Parish, Mer Rouge, Monroe, Bienville Parish, and Caddo Parish; west to Gayle, Frierson, Mansfield, Robeline, Fort Jesup, Toomey, and Black Bayou in Cameron Parish; south to Black Bayou, Lafayette, Saint Martinville, New Iberia, Houma, and Buras; and east to Junior, Belair, Jefferson Parish, New Orleans, Covington, Hackley, Clinton, Saint Francisville, Bains, Tallulah, and East Carroll Parish. It breeds from March to July.

Specimens of this woodpecker have been examined from Jefferson Parish, November 30, 1889; Belair, April 1 to 4, 1904; Kenner, November 7, 1889; Mandeville, March 18 and 19, —; Madisonville, May 21, 1888; Covington, November 15, 1889; Mer Rouge, June 6, 1892; Lecompte, January 14,

1908; and Alexandria, January 9, 1908. Ned Hollister found this bird common in Morehouse, West Carroll, East Carroll, and Madison parishes, from February 11 to March 20, 1904; and J. S. Thompson regards it as a common permanent resident in Bienville Parish. R. J. Thompson observed it at Lafayette, May 18 to 26, 1892; H. H. Kopman noted it at Saint Martinville, August 9 to 12, 1917; at Oaklawn near Lacombe, August 17, 1917; at Junior, August 4 and 5, 1917; and fairly common at Mandeville, August 18, 1917. Ned Hollister reported it from Belair, March 25 to April 8, 1904; and George E. Beyer recorded it as breeding at Madisonville, Clinton, and New Orleans in 1891. Andrew Allison collected a specimen in Jefferson Parish, November 30, 1899, which he forwarded to the United States National Museum. A. H. Howell noted it at Hackley, February 20 to 24, 1912; and Edward Butler reported its breeding at Saint Francisville in 1915, and at Bains in 1916. The writer found it common on the Singer Preserve on the Tensas River 13 miles southwest of Tallulah in Madison Parish, June 16 and 17, 1933. He also noted it at Houma, June 23, 1933; at Lottie, June 15, 1933; Robeline and Fort Jesup, June 19, 1933; and at Toomey, June 20, 1933. G. K. Cherrie obtained specimens at Buras on January 29 and 30, and February 4, 1896; and T. D. Burleigh one at New Orleans on September 8, 1937.

RED-COCKADED WOODPECKER

Phrenopicus borealis (Vieillot)¹⁶⁹

The Red-cockaded Woodpecker is a rare permanent resident in the pine and mixed woodlands of Louisiana; least common or absent entirely in the southwestern part of the State. It has been reported north to Mer Rouge, Monroe, and Caddo Parish; west to Cross Lake, Frierson, Mansfield, and Iowa (La.); south to Iowa (La.), Mandeville, and Oaklawn; and east to Madisonville, Covington, Bedico River, Hammond, Hackley, Franklinton, Clinton, Bayou Sara, and Clarks. It breeds chiefly during May and June.

¹⁶⁹ *Dryobates borealis* of the 1931 A. O. U. Check-List.

Vernon Bailey found at Mer Rouge a nest of this species containing young, and saw an adult bird in the vicinity, June 6, 1892. Specimens of this species taken at Mansfield, April 26, 1907, by A. H. Howell; and at Iowa (La.), April 8, 1899, by Vernon Bailey, have been examined; and also from the following localities in the museum of Tulane University at New Orleans: Covington, October 24, 1889, November 15, 1889, and November 14, 1889; Bedico River, June 28, 1888, July 30, 1890, and August 5, 1890; Ponchartroula, October 17, 1874; and Hammond, March 12, 1876. Vernon Bailey reported this bird as the most common of its family in the pine forests in the neighborhood of Iowa (La.), April 6 to 9, 1899. George H. Lowery, Jr., finds it one of the most characteristic species of the pine lands in the Baton Rouge region. H. H. Kopman observed it at Oaklawn near Lacombe, August 17, 1917; A. H. Howell noted it at Hackley, February 20 to 24, 1912; and George E. Beyer reported it as a breeding bird at Clinton and Madisonville in 1891. The writer observed it at Cross Lake, west of Shreveport, on June 18, 1933; and Winston E. Nolan collected it at Alexandria on December 26, 1936.

J. S. Campbell considers this woodpecker an uncommon and local resident of Bienville Parish. He has studied nests at Bienville, Brice, and Castor. His observations on several pairs indicate that two nests in a single tree are made by the birds, one of which is used to rear the young, the other for roosting. In the subsequent winter one of the holes is occupied as a roost by the male, the other by the female.

IVORY-BILLED WOODPECKER

Campephilus principalis (Linnaeus)

Few birds in Louisiana have had so much attention during the past few years as has the Ivory-billed Woodpecker. It is our largest woodpecker and in color very closely resembles the Southern Pileated Woodpecker. It may be distinguished, however, by its creamy white bill and its large patches of white on the wings, which show both when the bird is flying, and particularly when it is perching with the wings folded.

It formerly occupied the bottomland forests of all the southern states, extending then as far north as southern Indiana and North Carolina, but at the present time its numbers have been so greatly reduced that it is confined to a few restricted areas in the wilder parts of a few of the southern states. It is a bird of the heavy bottomland forest, and is not so frequently seen on the uplands. Owing to its retiring habits, and the fact that it is dependent on the deep forests for a home, it naturally disappears from areas when the forests are cleared or otherwise destroyed. This accounts for the great contraction of its range during the past 100 years. It has a powerful, sweeping flight, but ordinarily it does not travel long distances on the wing, most of its movements being from tree to tree through the forests. It is nearly always a solitary bird and is rarely seen except singly or in pairs. Its notes are nasal and weak for the size of the bird, resembling to some extent the notes of a gigantic nuthatch.

Its food consists of various kinds of insects, particularly those that inhabit the trees. The larvae of wood-boring species are dug by it from the trees in the forest. It also feeds on such wild fruit as persimmons, blackberries, and grapes.

Its nest is excavated by the bird in the dead or living wood of a forest tree, often high from the ground; the entrance is usually oval in shape, and the inside cavity not deep for the size of the bird. The eggs are usually three to five, pure white, without markings. Relatively little is known regarding the actual life history of this bird, and there is therefore still much to be learned from a careful study of its habits. The rapid decrease in the numbers of this bird, together with the destruction of many of the deep forests has aroused much interest in the preservation of the species from extinction, and it is to be hoped that some arrangements can be made by which a tract or tracts of forests sufficiently large for its use can be preserved for the Ivory-billed Woodpeckers that now inhabit these.

The Ivory-billed Woodpecker was formerly probably fairly common, but is now a rare permanent resident of the heavy bottomland forests in eastern and middle Louisiana. It has been reported north to Bayou Mason in West Carroll Parish, Prairie Mer Rouge, and Monroe; west to Ruston and the region about Morgan City; south to La Fourche Parish; and east to Iberville Parish, Baton Rouge, Tangipahoa Parish, Concordia Parish, Saint Joseph, Franklin Parish, and Madison Parish. It is now restricted to the deepest parts of the undisturbed bottomland forests. The breeding season extends from March to July.

A specimen sent to the Smithsonian Institution by J. Fairie was collected at Prairie Mer Rouge, many years ago (1853). Ned Hollister found it in the region about Bear Lake in Madison Parish, February 17 to March 6, 1904; Mrs. Bruce Reid reported it in 1934 from Tangipahoa Parish; and E. L. Moseley detected it in 1926 on Bayou Mason in West Carroll Parish. B. V. Lilly collected two specimens on March 10, 1906, on Cow Bayou in Iberville Parish 32 miles west of Plaquemine, which are now in the collection of the United States National Museum. Specimens in the museum of Tulane University were collected at Roaring Bayou in Franklin Parish, July 12, 1899, and July 24, 1899. Three of these form a group at a nest in the museum of Tulane University, and are some of the specimens collected by George E. Beyer on his visit to this region in 1899, a report of which he published during the following year.¹⁷⁰ It is of interest to note that J. J. Audubon observed it in June, 1821, near Bayou Sara.

Order PASSERIFORMES

Family TYRANNIDAE

EASTERN KINGBIRD

Tyrannus tyrannus tyrannus (Linnaeus)¹⁷¹

The Kingbird is so called because of its habit of attacking and driving away all other birds from the vicinity of

¹⁷⁰ The Auk, Vol. XVII, No. 1, January, 1900, p. 97.

¹⁷¹ *Tyrannus tyrannus* of the 1931 A. O. U. Check-List.

its nest, particularly the larger species like hawks and crows, which it considers likely to disturb its own home. So vicious is it in its attacks on even large birds that they seldom stay to fight it out, but escape as rapidly as possible. This flycatcher is called also 'bee bird', or 'bee martin', because of the fact that it at times catches bees as they fly to and from the hive. It is about nine inches long, black or blackish above, with white under parts, and a white tip on the tail. Its loud, rather harsh call is characteristic and is often heard when the bird is attacking an intruder.

The Kingbird lives in the more open country, and is not fond of the deep forests. Cultivated lands, such as orchards and the borders of fields, highways, brushy pastures, or even open woodlands, are frequented also. It is not usually found in any considerable flocks, but during migration sometimes many are found within a relatively small area. Its conspicuous habits and its numbers combine to make this a well-known bird.

Much of the food of this flycatcher is obtained on the wing, and the bird's keenness of sight is remarkable. This bird often sits on top of a tree or tall weed, or other place which gives it a commanding view, watching for passing insects, which it dashes out to seize, and then often returns to the same perch. Its food consists largely of various kinds of animals, mostly insects such as grasshoppers, beetles, bees, wasps, caterpillars, and flies; together with spiders, millipeds, and even small fishes. At other times, particularly when the supply of insects is diminished or difficult to obtain, the bird subsists to a great extent on various kinds of wild fruit and berries, such as chokecherries, dogwood, mulberries, huckleberries, and grapes. Like some of the larger birds it has the habit of disgorging in pellets the indigestible parts of the insects that it consumes.

Its nest is placed usually on some sort of a tree, forest, shade, or orchard, although in all kinds of shrubs and bushes; and even sometimes not more than two or three feet from the ground. Once in a while it makes use of the abandoned nest of some other bird, and it occasionally

builds in out of the way places, such as on fence-rails or the like. The nest is composed of various kinds of twigs and weed-stalks, mixed with bits of twine, vegetable down, hair, wool, and strips of bark, together with rootlets, and other similar materials. The lining is furnished by fine rootlets, grass, and sometimes horsehair. The eggs are usually three or four in number, cream color, spotted and blotched with various shades of dark brown and lavender. It takes about 13 or 14 days to hatch the young, and these subsist on animal food, mostly insects, during their stay in the nest. The male is a very faithful partner and assists not only in incubating the eggs, but also in building the nest.

The Eastern Kingbird is a common summer resident, from March 19 to October 23, throughout Louisiana; recorded north to Mer Rouge, Holly Ridge, Monroe, Choudrant, Bienville, and the Red River in Caddo Parish; west to Caddo Lake, Cross Lake, Shreveport, Curtis, Atkins, Crichton, Logansport, Natchitoches, Hagewood, Robeline, Fort Jesup, Florian, Anacoco, De Ridder, Longville, Gillis, Vinton, and Toomey; south to Calcasieu Pass, Rainey Wild Life Sanctuary, Patterson, Dulac in Terrebonne Parish, Grand Isle, Burrwood on the Southwest Pass of the Mississippi River Delta, and Pass a Loutre; and east to Main Pass (Mississippi River Delta), Bird Island southwest of Breton Island, Bayou Loutre in Saint Bernard Parish, The Rigollets, Abita Springs, Madisonville, Folsom, Saint Francisville, Bains, Simmesport, Ferriday, Lake Saint John, Waterproof, Saint Joseph, Newellton, Thomastown, and Tallulah. It breeds from mid-April to July, and there are records of eggs from May 11 to June 23.

Specimens examined in the Biological Survey were collected by T. D. Burleigh at New Orleans August 30, 1935, and September 12, 1935, also two others at the same place on October 4, 1937; and at Pointe a la Hache, May 7, 1935. E. G. Wright obtained examples at Chenier au Tigre on May 25, 1930, and at Avery Island on May 12, 1930. Eggs of this species are in the United States National Museum from Calcasieu Pass, collected by G. Würdemann in 1854;



EASTERN KINGBIRD (*Tyrannus tyrannus tyrannus*) ON NEST.
Avery Island, La., May 15, 1930.
(Photograph by A. M. Bailey.)

and from Grand Coteau, taken, June 23, 1887. The writer noted this species at Caddo Lake, Cross Lake, and Shreveport on June 18, 1933; at Robeline, Fort Jesup, Florien, Anacoco, De Ridder, Longville, and Gillis on the following day; and at Vinton, Toomey, Sulphur, Lake Charles, and Jennings, June 20, 1933. This bird was numerous on Pass a Loutre and Main Pass in the Mississippi Delta when the writer visited these localities on June 7, 1933, and a single bird was observed in Southwest Pass near Burrwood on the same day. It was seen by him also at Ferriday, Lake Saint John, Waterproof, Saint Joseph, and Newellton, June 16, 1933; and at Tallulah on the same date. H. H. Kopman found it very common at Thomastown, July 13 to 28, 1896. George H. Lowery, Jr., says that it is a common summer bird at Baton Rouge, and that in 1933 it arrived on March 30. J. S. Campbell considers it a common summer resident at Bienville. The writer noted a single individual on Bird Island southwest of Breton Island, June 6, 1933. Birds of this species struck the South Pass Lightship, May 1, 1903; and the Southwest Reef Lighthouse at the mouth of Atchafalaya Bay, April 20 and 21, 1907. H. H. Kopman reported it at New Orleans on October 23, 1903, a very late date. The writer has identified specimens taken by Winston E. Nolan at Grand Isle on April 7, 13, and 19, 1937; while others not seen were taken there on June 23, 1937, by S. Ward, and at Baton Rouge, April 1, 1937, by W. Summers.

ARKANSAS KINGBIRD

Tyrannus verticalis Say

The Arkansas Kingbird is a casual visitor, from April 4 to May 10, and from September to October 22, in eastern and southern Louisiana.

The first record for Louisiana is by J. J. Audubon, who observed it at Barataria Bay on April 4, 1837.

Apparently the first specimen for the State is one collected at Mandeville in September, 1914, by George Schneider.¹⁷² H. H. Kopman reported it at New Orleans, Octo-

¹⁷² The Auk, Vol. XXXII, No. 1, January 1, 1915, p. 18.

ber 22, 1915; and it has been recorded also from West Feliciana Parish.¹⁷³ E. S. Hopkins took specimens of this species at Grand Isle, April 28, 1925, and April 6, 1928; and Winston E. Nolan obtained one bird at the same locality on May 10, 1933. One was seen by E. R. Kalmbach on April 29, 1919, west of Lake Charles. George H. Lowery, Jr., records that the species has been seen at Shreveport.

SCISSOR-TAILED FLYCATCHER

Muscivora forficata (Gmelin)

This remarkable bird is known in Texas frequently as 'Texas bird of paradise', but more often simply by the abbreviated title 'scissor-tail'. It is one of the best known and most conspicuous of all the smaller birds in that State, and for many reasons is notable. Its slender body terminated by a long deeply forked tail at once attracts attention. One might think that its long tail would interfere much in its movements, but this seems on the contrary merely to add to the gracefulness of its flight. The upper parts are gray, the lower parts white, the tail mostly white, with a few black feathers, the sides of the body salmon pink.

This bird lives chiefly in the more open country, in cultivated areas as well as elsewhere. It is a bird of the trees and bushes, and is not often seen in dense forests. Like the Eastern Kingbird it does not disturb the small birds, but attacks crows, ravens, and hawks, with almost as much boldness as does that bird, and for apparently the same reason. Its note is a rather harsh twitter, again and again repeated, and is frequently heard when the bird is on the wing. Ordinarily it appears singly or in pairs, but at times it gathers into flocks of considerable size. Its flight is strong and sometimes rapid, and one of its particular performances is to fly up and down in the air almost vertically, all the time screaming its loudest.

The food of this flycatcher consists largely of insects such as locusts, grasshoppers, cotton worms, butterflies, beetles, moths, and also numerous kinds of wild berries.

¹⁷³ Bull. La. Dept. Cons., No. 20, December, 1931, p. 398.

Its nest is built in trees or bushes of various kinds, and usually not very high from the ground. At times the nest is to be found in very unusual locations, such as high posts or cross-bars of gates, telegraph poles, and even about buildings. The material of the nest is made up of small twigs, weed-stalks, rootlets, various weeds; even Spanish moss, cotton, bits of paper, hay, hair, rags, dry grass, and seaweed; the lining is fine plant materials, wool, and a few feathers or even twine. The eggs are usually five, cream white, beautifully marked with shades of dark brown and lavender. The young are hatched in about 12 days, and remain in the nest about two weeks, being fed mostly on insects by the parents.

The Scissor-tailed Flycatcher is a rare spring and fall transient, from March 25 to April 10, and from October 4 to October 6, in southern Louisiana, from New Orleans to Chenier au Tigre; and a casual summer visitor in the southwestern part of the State. It is reported to breed, but we have been able to discover no definite record of its nesting.

George E. Beyer reported it at New Orleans, March 25, 1894; and he has noted the occurrence of a flock of ten near Kenner, October 6, 1889. One recorded by Stanley C. Arthur was taken on October 4, 1917, at Gheens in La Fourche Parish; one by Arthur Svihla on April 3, 1926, at Cameron, and another by P. R. Thaxton on April 10, 1933, at Wisner in Franklin Parish.¹⁷⁴ E. S. Hopkins collected individuals of this species at Grand Isle on the following dates: April 6 and 10, 1926; April 2, 1927; and March 27, 1931. Winston E. Nolan also obtained it at Grand Isle on March 28, 1933. Another specimen was collected by E. S. Hopkins on Bayou La Fourche, April 1, 1930. A. M. Bailey records three seen at Chenier au Tigre; and the writer saw one at Toomey, June 20, 1933. An additional example examined by the writer was obtained on April 9, 1937, by Ambrose Daigre, at Grand Isle.

¹⁷⁴ Lowery, *The Auk*, Vol. LI, No. 1, January 8, 1934, p. 99.

DERBY FLYCATCHER*Pitangus sulphuratus derbianus* (Kaup)

The Derby Flycatcher is a tropical bird, and only an accidental visitor to southern Louisiana, of which there is but a single record for the State. This is a female collected at Chenier au Tigre, May 23, 1930, by Earl G. Wright.¹⁷⁸

SOUTHERN CRESTED FLYCATCHER*Myiarchus crinitus crinitus* (Linnaeus)

Sometimes called 'Great Crested Flycatcher', this bird is fairly well known in places where it is common. It is somewhat smaller than a robin, olive green above with a partly rufous tail, and yellow below, except for the throat and breast, which are rather light gray.

It is a bird of the woodlands, but inhabits also some of the more open country, even at times orchards and cultivated areas. It is more retiring in habits than the Eastern Kingbird, and not so demonstrative, although its loud note, which sounds very much like 'queep' betrays its presence in the forest, when the bird is securely hidden in the upper branches of a tree. Besides this characteristic call it has a number of other notes. It is not particularly strong in flight, but nevertheless it moves long distances during migration. It is a more or less solitary bird, rarely ever being seen in companies of any size.

So far as its food is concerned it is a beneficial species. It subsists largely on insects such as grasshoppers, moths, butterflies, aphids, flies, and their larvae, and at times when such are not readily available it varies its diet with various kinds of wild fruits.

This bird breeds usually in the woodlands along streams, in other drier woodlands, in orchards, and similar places. The nest is placed in a natural cavity of the trunk or branch of a tree, occasionally in a fence-post or a deserted woodpecker hole, or even in a nesting box, often at a considerable height from the ground. The materials consist of hair

¹⁷⁸ The Auk, Vol. XLVIII, No. 1, January 4, 1931, p. 123.

of various kinds, small twigs, moss, grass, leaves, fur, and feathers, and the lining of finer materials of similar kinds. An addition to the material of the nest is almost always one or more cast-off snake skins. The eggs are usually about five in number, buff, with numerous lines and a few blotches of dark brown and lavender. There is normally but a single brood each year, and it takes about two weeks to hatch the eggs. Usually this duty is performed by the female, but the male assists in taking care of the young, which is continued until they are able to shift for themselves.

The Southern Crested Flycatcher is a fairly common summer resident, from March 12 to October 2, in southeastern Louisiana, wherever woodlands or sufficient trees produce a suitable habitat. Its range extends at least north to Clinton, Bains, Saint Francisville, and Bayou Sara; west to West Baton Rouge Parish, Laplace, and Houma; south to Grand Isle, Plaquemines Parish, Waggaman, New Orleans, and Bayou Loutre in Saint Bernard Parish; and east to Pearl River, Mandeville, Madisonville, Bedico River, and Covington.

The following specimens examined in the present connection are clearly referable to the Florida race, thus extending the range of *Myiarchus crinitus crinitus* westward along the Gulf Coast to southeastern Louisiana. The range as outlined above is to some extent tentative, but the southern bird probably extends westward to the lower Mississippi River valley in Louisiana. The specimens examined, that are in the museum of Tulane University, are from Madisonville, May 10 and 16, 1888, June 27, 1888, and July 1, 1888; Bedico River, August 15 and 22, 1890, collected by George E. Beyer; and Plaquemines Parish, May 28, 1863, taken by Gustave Kohn. Another specimen was taken by T. D. Burleigh at New Orleans on May 28, 1935. George E. Beyer is the authority for the statement that the Crested Flycatcher breeds at Clinton and Madisonville; Robert Butler reported it as occurring in June, 1919, at Bains; and Edward Butler as breeding at Saint Francisville in 1915. George E. Beyer noted its arrival at New Orleans, March

12, 1894; and H. H. Kopman found it at Mandeville, August 18, 1917. George H. Lowery, Jr., states that it is a common summer resident at Baton Rouge, arriving in 1933 on April 1. Vernon Bailey reported it as common and breeding at Houma, May 4 to 16, 1892, and the writer observed it on Honey Island, along Pearl River near its mouth, June 27, 1933; at Laplace, June 14, 1933; and at Waggaman, June 23, 1933. Ambrose Daigre observed it at Grand Isle, April 25 and 30, 1936.

NORTHERN CRESTED FLYCATCHER

Myiarchus crinitus boreus Bangs

The Northern Crested Flycatcher is a fairly common summer resident, from March 10 to October 2, in northern, central, and southwestern Louisiana, wherever there are woodlands or sufficient trees. It has been reported north to Tondal on the Tensas River, Mer Rouge, Monroe, Bienville, and Caddo Parish; west to Caddo Lake, Shreveport, Crichton, Mansfield, Logansport, Hagedwood, Fort Jesup, Anacoco, Florien, De Ridder, and the Sabine River bottoms near Orange, Texas; south to Lake Charles, Gueydan, Mermontau, Chenier au Tigre, and Avery Island; and east to Saint Martinville, Grand Coteau, Port Barre, Simmesport (probably this subspecies), Jonesville, Frogmore, Newellton, Quimby, Thomastown, the Singer Preserve in Madison Parish, and Tallulah. It is also a transient in southeastern Louisiana, though no specimens have actually been examined from that region. Furthermore, owing to the absence of specimens from intermediate localities, the exact southeastern limits of the breeding range of the Northern Crested Flycatcher in Louisiana are not certain. It is without much doubt the breeding bird of southwestern Louisiana, since it is the breeding form of southeastern Texas.

Vernon Bailey found this species common at Mer Rouge between June 2 and 7, 1892; and A. H. Howell collected specimens at Mansfield, May 1 and 2, 1907; also at Logansport, August 25 and 27, 1906. Two specimens examined in the Chicago Academy of Sciences were obtained by

E. G. Wright at Avery Island on May 11 and 20, 1930, respectively. H. H. Kopman saw it along Bayou Teche near Saint Martinville, August 9 to 12, 1917; and at Simmesport, between August 31 and September 2, 1917; and he found it common at Thomastown, July 13 to 28, 1896. There are eggs of this species in the United States National Museum, collected at Grand Coteau in 1887. J. S. Campbell found a nest at Bienville, May 28, 1934, and one at Liberty Hill on May 18, 1932; and regards the bird as a common summer resident in Bienville Parish. The writer found this flycatcher unusually numerous along the Tensas River 13 miles southwest of Tallulah, in the bottomland forests of the Singer Preserve on June 16 and 17, 1933. He also noted this bird in 1933 at the following localities: Quimby, Newellton, Frogmore, and Jonesville, June 16; Tendal on the Tensas River, June 17; Caddo Lake and Crichton, June 18; Hagewood, Fort Jesup, Anacoco, Florien, and De Ridder, June 19; Lake Charles and Mermentau, June 20; Avery Island and Port Barre, June 21.

EASTERN PHOEBE

Sayornis phoebe (Latham)

In at least some parts of the country the Phoebe is one of the best known of our small flycatchers. It does not breed far south in the United States, but is common in the middle and northern states, and in parts of Canada. It has a number of other names, such as 'pewee', and 'bridge pewee'. In some places it is known also as the 'phoebe bird'. It is olive brown above and whitish below, rather obscure in appearance, but it usually may be distinguished by the fact that when perching it frequently moves its tail up and down.

It lives in almost any sort of place where it can find a suitable nesting site, even in forests, about cliffs, and in cultivated areas, likewise about buildings on farms. Rocky stream valleys and similar places are chosen haunts. In the winter and during migration it is to be found in almost all relatively open situations, even in the bushes and along

ditches in open marsh land. Its flight is rather weak and fluttering and it usually is not given to moving long distances on the wing, except perhaps during migration. It derives its name from its common call, which sounds very much like the word 'phoebe', with the accent on the latter syllable.

It lives on various kinds of insects, such as beetles, butterflies, moths, and flies, many of which it catches on the wing, darting out from a favorable perch, and returning to the same place after securing its prey. It is, like many of our birds, capable of disposing of a great amount of food, and, therefore, the benefit that accrues to man from its destruction of insects is great. At times, when insect food is scarce, as for instance in the winter, it subsists on berries of various kinds, such as the cedar, palmetto, and smilax, and on wild fruits, such as grapes, pokeberries, mulberries, strawberries, and raspberries.

It places its nest in caves, on rocky shelves, or in nooks about similar places, where well hidden by similarity to the surroundings. It builds also about various kinds of outhouses, bridges, and other similar structures, on the farm and along the highways. The nest is a compact, rather bulky structure of moss, grass, and leaves, cemented together with pellets of mud, and has a lining of fine grasses, mosses, horsehair, and sometimes feathers. The usually five eggs are white, sometimes unmarked, in some cases with small dots of dark brown. The female, which does most of the incubating, remains on duty about 12 days, and is not easily frightened from the nest. Usually the young remain in the nest about two weeks; and sometimes a second brood is reared.

The Eastern Phoebe is a fairly common winter resident, from September 25 to May 5, throughout Louisiana, but is apparently more numerous in the southern part of the State; recorded north to Lake Providence, West Carroll Parish, Monroe, Bienville, and Belcher; west to Belcher and Jennings; south to Cameron Parish, the lower Vermilion River, the Rainey Wild Life Sanctuary, Chenier au Tigre, Marsh

Island, Avoca Island, Terrebonne Bayou, Southwest Reef Lighthouse at the entrance to Atchafalaya Bay, Grand Isle, Buras, and Willow Pass in the Mississippi River Delta; and east to Carlisle, Belair, New Orleans, Chef Menteur, Slidell, Hammond, Mandeville, Covington, Madisonville, Hackley, and Bear Lake near Tallulah. It is also a rare or casual summer resident in northern Louisiana, south to Logansport and Tallulah, but there is no record of its actual nesting in the State.

A. H. Howell took this species at Belcher, February 5, 1908; and E. R. Kalmbach obtained it a little south of Gueydan, March 19, 1926. H. H. Kopman reported the Eastern Phoebe at Jennings, January 30 to 31, 1918; at Carlisle, October 5, 1917; at Belair, October 21, 1917; at New Orleans, September 25 and October 7, 1897; at Chef Menteur, December 23, 1917; and at Covington, October 7 and 12, 1899. J. S. Campbell says that it is a common winter resident at Bienville. A. H. Howell found it at Slidell, October 28 to November 1, 1908; and at Hackley, February 20 to 24, 1912; Ned Hollister noted it at Bear Lake near Tallulah, February 19, 1904; Stanley C. Arthur observed it on Marsh Island, February 6 to 8, 1915; and Ambrose Daigre at Grand Isle on April 28 and May 5, 1936.

Individuals reported by S. Jones struck the Southwest Reef Lighthouse at the entrance to Atchafalaya Bay, April 21, 1907, and October 27, 1908. The writer saw this species along the lower Vermilion River, January 22, 1928; on the Rainey Wild Life Sanctuary, January 22 and 23, 1928; at Avoca Island, January 27, 1932; on Terrebonne Bayou near Houma, January 26, 1932; and on Willow Pass in the Mississippi River Delta, December 20, 1932. Specimens in the museum of Tulane University at New Orleans were taken at Hammond, November 21, 1875; Sauve, February, 1889; and in Jefferson Parish, March 9, 1895. Others collected by R. W. Shufeldt at New Orleans, November 9 and December 1, 1882, were sent to the United States National Museum. A. M. Bailey obtained specimens at Chenier au Tigre on March 10, 1931, January 1 and 2, 1934, December 12 and

15, 1925; and G. K. Cherrie at Buras, January 29 and 30, February 1, 4, and 5, 1896, and at Chef Menteur, January 24, 1896. George H. Lowery, Jr., found the Phoebe common in Cameron Parish about January 1, 1938.

The only summer records for Louisiana are two birds seen northeast of Tallulah, between June 13 and July 13, 1924, by E. R. Kalmbach; and one seen at Logansport, by A. H. Howell, between August 25 and 27, 1906.

YELLOW-BELLIED FLYCATCHER

Empidonax flaviventris (Baird and Baird)

The Yellow-bellied Flycatcher is a rare transient, of which there are dates for only the spring from April 26 to May 12, and the autumn on October 9, but it occurs apparently all over Louisiana, from the northern and southeastern portions to Cameron Parish. There are, however, only a few specific records.

C. W. Beckham reported it on April 26, 1887, at Bayou Sara.¹⁷⁶ A specimen is said to have been taken in East Feliciana Parish, east of Clinton, but the record is without definite date.¹⁷⁷ George H. Lowery, Jr., records it as a regular transient, though very rare, in northern Louisiana, but he gives no dates. A single individual was shot at Cameron Farm, 14 miles south of Vinton, May 12, 1919, by E. R. Kalmbach. Ambrose Daigre collected a male on October 9, 1933, at Alexandria.

ACADIAN FLYCATCHER

Empidonax virescens (Vieillot)

This is one of the smallest flycatchers, olive green above and whitish below. It is sometimes called 'Green Crested Flycatcher'.

It is a bird of the woodlands, particularly the stream valleys, and lives in shaded thickets and forests. Its emphatic call, which has been variously interpreted and is

¹⁷⁶ The Auk, Vol. IV, No. 4, October, 1887, p. 804.

¹⁷⁷ Bull. La. Dept. Cons., No. 20, December, 1931, p. 402.

very much like 'chier-queep', is much more frequently heard than the bird is seen, since its coloration blends so perfectly with the foliage that it is difficult to see except when it moves. Its flight is not strong or long continued; and it is usually a more or less solitary bird.

It feeds largely on the various kinds of insects that it is able to obtain in its chosen haunts, such as ants, wasps, bees, moths, caterpillars, beetles, grasshoppers, and crickets, together with some millipeds and spiders, and a small amount of wild fruit.

This bird breeds mostly along streams, in thickets, or at least not far away from such. Its nest is placed on branches of trees or bushes, usually not high from the ground, and is ordinarily such a clumsily built and flimsy structure that it might be easily mistaken for a bunch of grass caught on a branch as the result of a flood. This is composed of weed-stalks, mosses, grasses, and rootlets, decorated sometimes with blossoms and catkins. The nest is sometimes so thin that the eggs can be easily seen from below. The two to four eggs are creamy white, or buff, with not very numerous markings of dark brown.

The Acadian Flycatcher is a fairly common, locally common, summer resident, from March 30 to October 27, throughout most of Louisiana, wherever there are woodlands or wooded bayous. It has been reported north to Monroe, Bienville, and Caddo Parish; west to Cross Lake, Logansport, Natchitoches, Sandel, and Toomey; south to near Gueydan, Avery Island, Bayou Chene, Bayou Des Allemands, Little Barataria Bayou, Jefferson Parish, and New Orleans; and east to Pearl River, Madisonville, Covington, Hammond, Amite, Clinton, Simmesport, Jena, Quimby, Thomastown, and Tallulah. It breeds in May and June; and there are records of eggs from June 6 to 9.

The writer has examined the following specimens: Monroe, June 21, 1931, collected by George H. Lowery, Jr.; New Orleans, September 5, 1935, by T. D. Burleigh; Jefferson Parish, August 25, 1930, in the museum of the Louisiana Department of Conservation at New Orleans; and also these

specimens in the museum of Tulane University: Lewisburg, May 7, 1873; Amite, May 31, 1888; Madisonville, April 8, 1886, May 4, 10, 15, and 17, 1888. A. H. Howell collected a single individual at Logansport, August 27, 1906; and E. R. Kalmbach, one at a point south of Gueydan, September 18, 1925. George H. Lowery, Jr., says that it is a common summer resident at Baton Rouge, arriving late in April; and he collected a specimen on May 3, 1936. H. H. Kopman observed the species at Bayou Chene, August 29 and 30, 1917; Bayou Des Allemands, June 19 to 21, 1917; Hammond, April 26, 1918; Simmesport, August 31 to September 2, 1917; and Thomastown in Madison Parish, common from July 13 to 28, 1896. He saw it also at New Orleans, October 10, 1896; and at Covington, October 27, 1899. George E. Beyer reported it about 1891 as breeding at both Madisonville and Clinton; and E. R. Kalmbach noted it at Tallulah, June 28, 1924. The writer found this bird unusually numerous in the heavy bottomland forests along the Tensas River on the Singer Preserve 13 miles southwest of Tallulah in Madison Parish, June 16 and 17, 1933; in fact, it seemed to be more numerous in this place than in any other similar area that he has ever seen. He noted it in 1933, also at the following localities: Cross Lake, June 18; Natchitoches and Sandel, June 19; Toomey, June 20; Little Barataria Bayou, June 10; Jena, Quimby, and the Little River Valley near White Sulphur Springs in La Salle Parish, June 16; Lottie, June 15; Krotz Springs, Ervinville, and Oscar, June 21; and Honey Island on Pearl River, June 27. J. S. Campbell found nests with eggs at Bienville on June 6, 1932, and June 9, 1933. George H. Lowery, Jr., obtained a specimen at Grand Isle on April 10, 1937, which the writer has also examined.

ALDER FLYCATCHER

Empidonax traillii traillii (Audubon)

The Alder Flycatcher is an uncommon spring and fall transient, from April 7 to May 2, and from September 1 to 20 (in southern Mississippi, August 27 to October 18) chief-

ly in central and southern Louisiana, and recorded from New Orleans north to Monroe.

H. H. Kopman reports seeing this species at New Orleans, May 2, 1897, and September 12, 1899. Andrew Allison also observed it at this same locality, April 7, 1900. E. S. Hopkins collected three of these birds on September 9, 1924, at Harvey; and George H. Lowery, Jr., reports taking a specimen at Monroe, April 27, 1931. None of these have been examined in the present connection, but there are two in the Biological Survey collection obtained by T. D. Burleigh at New Orleans on September 16 and 20, 1935, respectively; and it is probable that this is the prevailing Louisiana race, since the Little Flycatcher, *Empidonax traillii brewsteri*, is not known so far east. The Little Flycatcher may, however, occasionally occur, although, since it is impossible to distinguish from the eastern bird in the field, its inclusion in the State list must depend on actual examination of specimens.

LEAST FLYCATCHER

Empidonax minimus (Baird and Baird)

The Least Flycatcher is an uncommon transient,¹⁷⁸ from March 30 to May 9, and from September 14 to October 23, in most of Louisiana; reported from the Southwest Reef Lighthouse at the entrance to Atchafalaya Bay, New Orleans (Bay Saint Louis in Mississippi), West Baton Rouge Parish, Richland Parish, and Ouachita Parish, west to Shreveport and New Iberia.

Birds of this species were recorded by S. Jones as having struck the Southwest Reef Lighthouse, April 21, 1907, and October 23, 1908. H. H. Kopman noted the species at New Orleans, April 6 and May 2, 1895, and September 14, 1911; and at New Iberia, March 30 and May 9, 1902. E. L. Moseley reported it from Richland Parish, April 1, 1923; and George H. Lowery, Jr., says that it occurs fairly commonly at Monroe. H. H. Kopman observed it 20 miles south of Shreveport on May 3, 1929.

¹⁷⁸ Probably more common than the records indicate.

EASTERN WOOD PEWEE*Myiochanes virens* (Linnaeus)

This bird, by reason of its general distribution, and the fact that it is in most parts of its range rather common, is one of the better known of our small flycatchers. It is to be found over most of eastern North America, from southern Canada to the Gulf states, but in winter it travels as far as central South America. It is only about six and one-half inches in length, olive color above, and white with a slight tinge of greenish below.

It is a bird of the woodlands, and occurs not only in the deep forests, but also in groves and orchards, and sometimes along the streets and in the parks of the towns, particularly in the suburban areas. It remains, however, rather closely in the protection of the trees and thickets, except for its sallies after food. Its note, which sounds very much like the syllables 'pee-a-wee', is much more familiar to observers than is the bird itself, since by this the bird is readily distinguished, whereas in plumage it somewhat closely resembles a number of the other small birds of the flycatcher family.

Its food, like that of the other small flycatchers, is made up of a large percentage of insects, and these comprise a number of very injurious kinds, such as flies, bugs, crickets, borers, curculios, weevils, caterpillars, and grasshoppers. Once in a while, strange to say, it catches very small fishes in ponds. It takes also a few seeds and berries.

The nest of the Wood Pewee is one of the most remarkable and interesting features of its life history. This is placed usually on the upper side of a horizontal fork or other suitable place on a limb of a tree, and in a forest, orchard, or shade tree. It is a dainty, though compact and strong, shallow saucer, sometimes so thin at the bottom that the eggs are almost visible from below, and composed of various kinds of rootlets, strips of bark, and weed-stems, and lined with horsehair, plant down, wool, or similar materials. The outside of the nest is carefully covered

with bits of lichens, by which the nest becomes almost invisible, as if it were a part of the branch on which it rests. The eggs are usually two or three, cream colored, with spots, usually arranged in a wreath around the larger end, of warm dark browns and shades of lavender. Commonly but a single brood is reared.

The Eastern Wood Pewee is a fairly common summer resident, from March 27 to November 2, more numerous during the migrations, throughout most of Louisiana; recorded north to Tensas on the Tensas River, Monroe, Choudrant, Bienville, and Bossier Parish; west to Caddo Lake, Cross Lake, Shreveport, Logansport, Natchitoches, Hagerwood, Fort Jesup, Fisher, Florien, Anacoco, Leesville, and Sulphur; south to Lake Charles, Lake Claire (17 miles south of Gueydan), Avery Island, Raceland, and New Orleans; and east to Rigolets, Bedico River, Hammond, Saint Francisville, Bains, Simmesport, Trout, Thomastown, Singer Preserve in Madison Parish, and Tallulah. It is also a transient in the Gulf Coast region, south of its breeding range. It nests mostly in May and June.

Eggs of the Eastern Wood Pewee collected at Grand Coteau are in the United States National Museum. A single bird struck the Southwest Reef Lighthouse at the entrance to Atchafalaya Bay, October 23, 1908. H. L. Ballowe reported this flycatcher at Diamond, April 16, 19, and 25, 1902; and H. H. Kopman, from Empire, April 13, 1917; but there seems to be no evidence that it breeds at either of these localities. A. H. Howell obtained specimens at Mansfield, April 27, 29, and 30, 1907, and May 2, 1907, and found it common there. He noted it also at Logansport, August 25 to 27, 1906. J. S. Campbell gives it as a very common summer resident, from April 8 to late September, at Bienville. E. R. Kalmbach observed it about five miles east of Gueydan, and also on the shore of Lake Claire (17 miles south of Gueydan), April 29, 1925. H. H. Kopman reported it from Oaklawn, near Lacombe, August 17, 1917; from Hammond, where it breeds, on April 21, 1916, and April 26, 1920; at Simmesport, August 31 to September 2, 1917;

and at Thomastown in Madison Parish, July 13 to 28, 1896. He obtained a specimen at New Orleans, September 25, 1895; H. W. Henshaw collected one at Rigolets, April 10, 1870; also T. D. Burleigh at New Orleans, August 26, 1935; and there is a specimen in the museum of Tulane University from Bedico River, August 9, 1870. Edward Butler reported its breeding at Saint Francisville in 1915, and at Bains in 1916. E. R. Kalmbach noted it east of the town of Tallulah, June 28, 1924; and the writer found it common in the heavy bottomland forests of the Singer Preserve along the Tensas River 13 miles southwest of Tallulah, June 17, 1933. He observed it also in 1933 at Tendal on the Tensas River; at Choudrant, June 17; at Trout, June 16; at Westwego, June 23; at Caddo Lake, Cross Lake, and Shreveport, June 18; at Natchitoches, Hagewood, Hornbeck, Fort Jesup, Fisher, Florien, Anacoco, Leesville, and Lake Charles, June 19; Sulphur, June 20; and at Raceland, June 23. Ambrose Daigre observed it commonly at Grand Isle from April 9 to 20, 1937; and George H. Lowery, Jr., obtained a specimen there on April 11, 1937.

EASTERN OLIVE-SIDED FLYCATCHER

Nuttallornis borealis cooperi (Nuttall)¹⁷⁹

The Eastern Olive-sided Flycatcher is a very rare spring and autumn transient in southeastern Louisiana, in May and from August 16 to August 31. It is not recorded from the northern part of the State.

Apparently there are only three records of this species for Louisiana. A single individual reported by George E. Beyer¹⁸⁰ was collected by H. L. Ballowe at Diamond on August 31, 1894. The only other records are those of a single bird seen by H. H. Kopman at Covington, August 16, 1903; and another seen by Andrew Allison at New Orleans on May 6, 1901.

¹⁷⁹ *Nuttallornis mesoleucus* of the 1931 A. O. U. Check-List. For explanation of this change of name, see van Rossem, Trans. San Diego Soc. Nat. Hist., Vol. VII, No. 30, May 31, 1934, pp. 350-352.

¹⁸⁰ Proc. La. Soc. Naturalists, for 1897-1899 (1900), p. 104.

VERMILION FLYCATCHER*Pyrocephalus rubinus mexicanus* Sclater

The Vermilion Flycatcher is an accidental or casual winter visitor to southern Louisiana.

A specimen of this bird was taken at the Louisiana State University, Baton Rouge, on February 7, 1938, by George H. Lowery, Jr.

Family ALAUDIDAE**NORTHERN HORNED LARK***Otocoris alpestris alpestris* (Linnaeus)

The Northern Horned Lark is a rare winter visitor, observed from January 6 to February 22, in southeastern Louisiana, from Pearl River to New Orleans.

It was first reported from Louisiana by Jonathan Dwight,¹⁸¹ who listed, without date, a specimen from New Orleans. George E. Beyer recorded a single individual of this subspecies taken on the shore of Lake Pontchartrain at Mandeville, January 6, 1879, and this specimen is at the present time in the Gustave Kohn collection in the museum of Tulane University, where its identification was verified in the present connection. For some reason, H. H. Kopman, in later mentioning this specimen, changed the identification given by Beyer to that of the Prairie Horned Lark.¹⁸² Another specimen of the Northern Horned Lark, a male, was collected by H. H. Pring at Pearl River, February 22, 1895, and is now in the museum of Tulane University.

With reference to the Prairie Horned Lark, it is of interest to note here that there is, up to the present time, no definite record of its occurrence in the State, since all the Louisiana specimens of horned larks that we have examined prove to belong to other races.

¹⁸¹ The Auk, Vol. VII, No. 2, April, 1890, p. 142.

¹⁸² The Auk, Vol. XXXII, No. 1, January, 1915, p. 20.

HOYT HORNED LARK*Otocoris alpestris hoyti* Bishop

The Hoyt Horned Lark is a casual winter visitor in southeastern Louisiana, so far as known only in January.

In fact, there is but one record for the State, that of a single adult male in the Gustave Kohn collection in the museum of Tulane University, at New Orleans. This specimen was collected, apparently by Gustave Kohn, at Mandeville, on January 6, 1879. It was at the time in company with other horned larks, specimens of which were taken and prove to belong to the Northern Horned Lark, *Otocoris alpestris alpestris*.

TEXAS HORNED LARK*Otocoris alpestris giraudi* Henshaw

The Texas Horned Lark is an uncommon permanent resident on the Gulf Coast prairies of southwestern Louisiana, east certainly to the mouth of the Mermentau River, and probably Avery Island, and north to Kaplan.

E. R. Kalmbach found Horned Larks in much worn plumage on the sandy area away from the beach at the mouth of the Mermentau River, August 11 and 12, 1925, and he obtained here a single individual. Horned Larks seen by the writer at the Florence Club 16 miles south of Gueydan, December 29, 1932; and at Kaplan, on the same date; as well as five seen at Avery Island, December 28, 1932, belong also to this same form.

Family HIRUNDINIDAE**TREE SWALLOW***Iridoprocne bicolor* (Vieillot)

Swallows are among our most graceful, interesting, and valuable birds. The present one, sometimes called 'White-bellied Swallow' is one of the most beautiful, being metallic green or blue above, and pure white below. It is only about six inches in length, but it has a proportionately great extent of wing, as have most swallows, and the nar-



(Courtesy of the National Association of Audubon Societies.)

THE TREE SWALLOW
Iridoprocne bicolor (Vieillot)

Characteristic of Louisiana marshes, such as those bordering the Chef Menteur Highway, are the flocks of thousands of Tree Swallows arriving in the autumn to spend their winter in our State. Typically Swallow-like in flight, this species has the unswallow-like habit of including considerable seeds and berries in its food. Tree Swallows form also a typical winter picture as with speed and grace they course above the waters of the Mississippi River.

row pointed wings that are characteristic of birds of this group. As a consequence its flight is light and airy, and capable of being long sustained. It has the habit of sailing more than do many other kinds of swallows. It alights on the ground much more than do most other swallows. This bird in the breeding season is found over most of North America, though locally. It winters in the southern part of North America, does not migrate beyond Central America, and is thus one of the less widely ranging of our North American swallows.

This bird lives in almost any kind of country, although it is not often found in deep forests. It is frequently seen coursing about high in the air, or skimming over the surface of the water, barely enough above it to avoid touching the surface. At times during migration it assembles into enormous flocks, sometimes amounting to tens of thousands, and at such times large groups of these birds execute marvelous evolutions in the air.

The food of this bird consists largely of various kinds of animal food, chiefly insects, including a large number of various injurious species, such as moths, chinch bugs, plant lice, leaf hoppers, ants, flies, beetles, and cotton-boll weevils. Berries, particularly the bayberry, form a considerable part of the food of this bird at certain times of the year. Other berries, such as those of the Virginia creeper, dogwood, and red cedar, are sometimes taken.

This bird builds its nest either in woodlands, near water, or sometimes about houses, or in almost any cultivated areas. The nest is placed in a hollow tree, a crevice about a building, or bridge, or even in a bird house. It is usually composed of straw, weed-stalks, grass, and similar materials, and abundantly lined with feathers. The usually four to six eggs are white, unmarked. Both male and female aid in the incubation of the eggs, and ordinarily but a single brood is reared.

The Tree Swallow is a common, locally abundant, winter resident, from July 20 (casually July 8) to June 2, in the Gulf Coast region of southern Louisiana, from Saint Tam-

many Parish and the Mississippi River Delta, west to Cameron Parish; and from the Delta Duck Club on Octave Pass, Grand Isle, Chenier au Tigre, Grand Chenier, Cameron, and the Gulf of Mexico south of the club house of the Orange-Cameron Land Company in southwestern Cameron Parish, north to Black Bayou in Cameron Parish, Calcasieu Lake, the Rainey Wild Life Sanctuary, the Intercoastal Canal near Intercoastal City, the lower Vermilion River, Avery Island, Cote Blanche, Avoca Island, Bayou Black near Houma in Terrebonne Parish, Little Barataria Bayou, Lake Salvador, New Orleans, Chef Menteur, Mandeville, Slidell, and Lake Catherine. This species is also a spring and autumn transient throughout the rest of Louisiana, east to Baton Rouge, and west at least to Alexandria, Bienville, and Arcadia, probably also throughout the remainder of the State. There is no authentic record of its breeding in Louisiana.

Specimens of the Tree Swallow were taken at New Orleans, April 12, 1889, and April 10, 1897; and at Grand Isle, March 27, 1931. At the latter locality Ambrose Daigre observed it frequently from April 11 to May 2, 1936. Along the lower Mississippi River, between Pilot Town and Ostrica, the writer observed a large scattered flight of this species on January 23, 1932. The birds seemed to be moving down the river, for he encountered them for many miles on the upstream river trip; and a count of the individuals seen totaled 2805. The species seems to be very common along the lower Mississippi River during the winter, since the writer has observed a considerable number on other occasions, such as December 20, 1932, between Magnolia and Myrtle Grove; and on December 16, 1932, between Algiers and Empire. Ned Hollister reported it abundant at Belair, March 25 to April 8, 1904; and H. H. Kopman, at Phoenix, April 10, 1918, observed a flock of about 200 of these birds in a newly-broken cornfield, apparently feeding on insects in the flowers of low plants near the ground. At Baton Rouge, according to George H. Lowery, Jr., it is a common transient; in 1934 it arrived on March 17; in 1936 on March 10. At New Orleans, H. H. Kopman has noted it on many dates during the winter, and as early as July 20,

1903; and George E. Beyer reported it there on July 8, 1893. H. H. Kopman found it fairly common at Chef Menteur, December 23, 1917; and A. H. Howell saw it at Slidell, November 1, 1908. J. S. Campbell considers it a very rare transient in Bienville Parish, as he has but two records: one at Bienville, June 2, 1932, and the other at Arcadia, August 28, 1933.

H. H. Kopman reported a continuous westward flight of this species on January 13 and 14, 1918, at Cote Blanche between Baldwin and Cypremort. W. L. McAtee noticed it common at Cameron in Cameron Parish, November 28 to December 6, 1910. The writer noted this species as fairly common on Black Bayou in Cameron Parish, January 24, 1928; along the Gulf of Mexico south of the Orange-Cameron Land Company's club house, January 24, 1928; at Calcasieu Lake, December 31, 1932; along the Intercoastal Canal between Intercoastal City and Vermilion Bay, January 30, 1932; on Vermilion Bay, January 29, 1932; and on the Rainey Wild Life Sanctuary, January 22 and 23, 1928. It was numerous on the Rockefeller Wild Life Refuge at Grand Chenier, December 31, 1932. The writer found it abundant on Lake Salvador, January 26, 1932; and at Avoca Island, January 27, 1932, he observed a flight shortly after sunset, moving apparently toward the roosting grounds, which lasted for a considerable period, and by count contained 4850 birds. The writer observed this bird also on Little Barataria Bayou, January 26, 1932; on Bayou Black near Houma in Terrebonne Parish, January 27, 1932; at Avery Island, December 28, 1932; on the lower Vermilion River, January 30, 1932, and January 22, 1928; and found it abundant at the Delta Duck Club on Octave Pass in the Mississippi River Delta, January 22, 1932, and January 19, 1928.

AMERICAN BANK SWALLOW

Riparia riparia maximiliani (Stejneger)¹⁸³

Somewhat smaller than the Tree Swallow, and of very different habits, this species is rather outstanding. It is

¹⁸³ *Riparia riparia riparia* of the 1931 A. O. U. Check-List.

sometimes called 'sand swallow', or 'sand martin', because of its nesting habits. In color it is dark brown above, white below, with a dark brown band across the lower throat. It is well distributed over North America, but is very local in its summer occurrence. In winter it migrates to South America, as far as Bolivia.

It lives along streams of various kinds, or in stream valleys, and is seen usually coursing about in the air over the water, often in company with other species of swallows. In general build and flight it is similar to the other swallows, but is one of the swifter species. At times it gathers into great flocks for either purposes of roosting or of migration. At night it roosts in holes in banks or in the tall grass, reeds, or other similar vegetation of a marsh.

The food habits of this bird are almost entirely insectivorous. It lives largely on flies, including the horse fly and similar kinds, beetles which include such destructive insects as the rice weevil, alfalfa weevil, and cotton-boll weevil; and other insects, such as caterpillars, ants, plant lice, leaf hoppers, and dragonflies. It is thus one of our most beneficial birds.

In its nesting habits it differs much from many of the other swallows. It excavates a burrow in the side of a bank, either along a stream, a dry wash, in a sand pit or in a railroad or highway cut. Sometimes several hundreds or even thousands of these birds breed together in colonies in such places. At the end of the burrow, which is usually only a few feet in length, sometimes, however, at least eight or nine feet, they place a small amount of grass, weed-stalks, and feathers, as a lining for the chamber, which is an enlargement at the end of the burrow. The usually four to five eggs are white, unmarked. It takes ordinarily about 12 days to hatch the young, and they remain in the nest for a considerable time, as they are helpless until they are able to fly.

The American Bank Swallow is a rare and very local summer resident, from March 23 to late October, throughout most of Louisiana, from New Orleans, Hester, Bains,

and Gueydan, north to De Soto Parish. While there is no definite nesting record for Louisiana, the species probably breeds within the State borders.

The writer has seen specimens of this species in the museum of Tulane University, taken on July 6, 1886, at New Orleans, and on the Orleans Canal near New Orleans on the same day; also in the Biological Survey, obtained at New Orleans, August 7, 1935, by T. D. Burleigh. E. R. Kalmbach collected it near Gueydan, September 16, 1925; Andrew Allison reported it at New Orleans, April 20, 1895; and George E. Beyer at the same locality, March 23, 1894. At Hester in Saint James Parish, H. W. Pring reported its occurrence on March 23 and April 15, 1902; and Robert Butler found it at Bains, April 3 and 15, 1931. J. K. Strecker recorded it as a rather common summer resident in De Soto Parish, where he saw it along the Red River, Bayou Pierre, and Wallace Bayou, between August, 1925, and June, 1928.

The American Bank Swallow differs from the European Bank Swallow, *Riparia riparia riparia*, in shorter wing, relatively larger feet and bill, darker and more sooty (less rufescent) brown upper parts.

Average measurements of male specimens from eastern North America are: wing, 100 mm.; tail, 48.8; exposed culmen, 6.1; and tarsus, 10.9. Average measurements of the male European bird are: wing, 104.3; tail, 49.7; exposed culmen, 5.9; and tarsus, 10.8.

It ranges in summer over nearly all North America, and winters south to southern South America.

It was long ago distinguished from the European bird by Leonhard Stejneger, but his diagnosis has subsequently been overlooked or ignored, although the American bird is, however, readily separable as above indicated. Stejneger named the "American variety" of Bank Swallow *Clivicola riparia maximiliani*;¹⁸⁴ and his type, subsequently designated, is an adult male, No. 8325 of the United States National Museum collection, taken at Ipswich, Mass., May 20, 1870, by C. J. Maynard.

¹⁸⁴ Bull. U. S. Nat. Mus., No. 29, December 16, 1885, p. 378, footnote.

ROUGH-WINGED SWALLOW*Stelgidopteryx ruficollis serripennis* (Audubon)

Very much like the Bank Swallow in appearance, except for the lack of a definite dark brown band on the breast, but a little greater in size, the present bird is scarcely to be confused with any other swallow that inhabits Louisiana.

It is to be found in very much the same kinds of country as the Bank Swallow, and in general habits is very similar, except that it does not breed in large colonies, and it does not assemble into such large flocks as the Bank Swallow and most of the others.

Its food is very much like that of the Bank Swallow, and consists largely of insects, including aquatic kinds.

The nest of this species is seldom in colonies, and never more than a few are near together. It builds in any sort of a hole that is convenient in a clay bank, the abutments of a bridge, or crevice in a building, hole in a tree, or similar cavity, and even in a drain pipe in a stone wall along a city street. The nest is composed of grasses, roots, pine needles, dead leaves, and similar materials, and occasionally feathers. The eggs are usually about five, pure white, without markings.

The Rough-winged Swallow is a fairly common summer resident, from March 10 to November 5, throughout most of Louisiana; recorded north to Monroe, Bienville Parish, and Shreveport; west to Crichton, Natchitoches, Anacoco, Leesville, and the Cameron Farm 14 miles south of Vinton; south to Sulphur, Lake Charles, New Iberia, Avery Island, Bayou Chene, Bayou La Fourche, and Plaquemines Parish; east to Junior, Phoenix, New Orleans, Amite, Bains, Simmesport, Lake Saint John, Newellton, and Thomastown. It is also a casual winter resident in central eastern Louisiana.

Specimens of this subspecies in the museum of Tulane University at New Orleans, recently examined, were collected in Plaquemines Parish, May 28, 1863; at New Orleans by George E. Beyer, July 18, 1886; also at New Orleans,

April 14, 1936, September 5, 1935, September 12, and November 5, 1936, by T. D. Burleigh; and at Amite, May 31, 1858, probably by Gustave Kohn. It is of interest to note that John James Audubon, who originally described this bird, collected it first at Bayou Sara, Louisiana, October 20, 1819. H. H. Kopman reported this species a common summer resident at New Iberia and noted its arrival there, March 28, 1902. He found it common at Bayou Chene, August 29 to 30, 1917; Bayou La Fourche, August 24, 1917; and at Simmesport, August 31 to September 2, 1917. He observed it also at Phoenix, September 12 to 15, 1917, and April 9 to 10, 1918; at Junior in Plaquemines Parish, August 4 to 5, 1917; and abundant at Thomastown in Madison Parish, July 13 to 28, 1896. J. S. Campbell gives this species as a common summer resident in Bienville Parish. Edward Butler reported its arrival at Bains, March 17, 1922; and George H. Lowery, Jr., at Baton Rouge, March 25, 1933, March 24, 1934, and March 10, 1936. E. R. Kalmbach saw it at Cameron Farm, April 30, 1919, and found it generally distributed throughout the rice and Gulf Coast areas of Vermilion and Cameron parishes during the summer of 1925. The writer observed it at Newellton and Lake Saint John, June 16, 1933; Livonia, June 15, 1933; Shreveport and Crichton, June 18, 1933; Natchitoches, Anacoco, Leesville, and Lake Charles, June 19, 1933; and at Sulphur, June 20, 1933.

The only winter records for this species consist of an observation made by H. H. Kopman at New Roads in Pointe Coupee Parish on December 15, 1917, when he saw a considerable number of these birds in flight over and about a lake, where they were present in the same general locality and under his observation for several hours; and the statement of George H. Lowery, Jr., that the species remains throughout the winter at Baton Rouge where he collected a specimen on January 26, 1938.

BARN SWALLOW

Hirundo rustica erythrogastris Boddaert¹⁸⁸

The Barn Swallow is one of the most easily distinguished, commonest, and best known of our North American swallows. Its dark metallic blue upper parts, chestnut forehead, chin, and throat, with a dark metallic blue band across the breast, and the rest of the lower surface light rufous, together with a long forked tail, make it easily identified anywhere.

It is very fond of the haunts of man, and inhabits usually the more open country on farms, and at times even the towns. Except when breeding it may be found almost anywhere, and sometimes in great flocks it resorts to the various bodies of water for the purpose of seeking food and for roosting. It gathers together at night and often roosts in the marshes when preparing for its autumn migration. It is much of the time on the wing, and may be seen skimming along the surface of the water or coursing about, sometimes often high in the air, the main object being, of course, the pursuit of food. In flight the Barn Swallow is swift and strong, and it is one of the most graceful of all our birds.

Practically all the food of this bird consists of insects, such as ants, flies, mosquitoes, bugs, many beetles including weevils, wasps, and bees except honey bees, and also moths, some of them injurious species. About the only other food that it takes consists of a few spiders and small snails.

The nest is placed either on some rafter or in some nook on the inside of a farm building, under a bridge or similar structure, in crevices in bluffs or banks, and similar places, sometimes in small colonies. The nest is composed of a large portion of mud mixed with weed-stalks, straws, and grasses, and lined with feathers and other soft materials. It is made so largely of mud that it is easily fastened to the side of some projection, or as is usual

¹⁸⁸*Hirundo erythrogaster* of the 1931 A. O. U. Check-List.

rests also on the same support, and the structure is thus made secure. The eggs are usually four or five, white, with dark brown and purplish spots. It takes about 12 days to hatch the eggs; and since the young are helpless they are fed for a long time in the nest, at first at least with regurgitated food from the crop of the adult.

The Barn Swallow is one of the most beneficial of our swallows, and is of much help on the farm, where it destroys a great many injurious insects, such as mosquitoes and flies that annoy livestock.

The Barn Swallow is a fairly common spring and autumn transient, from March 15 to May 27, and from August 1 to November 5, throughout Louisiana; west to Caddo Lake, Mansfield, Cameron Farm 14 miles south of Vinton, and the mouth of the Mermentau River; and east to South Pass Lightship off Port Eads in the Mississippi River Delta, the mouth of Main Pass in the Mississippi River Delta, Deer Range Plantation in Plaquemines Parish, Junior, Phoenix, Belair, Caernovan, New Orleans, East Lake in Saint Bernard Parish, Mandeville, Hammond, Bains, Oak Grove in West Carroll Parish, and Lake Providence. It is also a casual summer resident in northern Louisiana, south to Caddo Lake and Jena; and a casual winter resident in the central southern part of the State.

The only summer records of this species available are single birds seen by the writer at Caddo Lake, June 18, 1933; and at Jena, June 16, 1933.

The only winter record for the State consists of a single Barn Swallow seen by T. Gilbert Pearson and Charles W. Townsend on the Rainey Wild Life Sanctuary, December 4, 1925.

J. S. Campbell saw this bird at Lake Providence and Oak Grove, May 3, 1933. E. R. Kalmbach reported this species common at Cameron Farm in Cameron Parish 14 miles south of Vinton, in early May of 1919; also common during the spring migration throughout the Gulf Coast region of Vermilion and Cameron parishes from April 25

to May 18, 1925; and he saw it on August 11 and 12 of the same year at the mouth of the Mermentau River. H. H. Kopman noted it at Junior, August 4 to 5, 1917; at Phoenix, October 23, 1917; at Belair, October 21, 1917; at Caernovan, April 16 to 18, 1918; at Deer Range Plantation in Plaquemines Parish, August 5, 1917; at Mandeville, August 18, 1917; also at Hammond, August 21, 1920, and April 26, 1918. Edward Butler noted its arrival at Bains, March 26, 1922; and W. W. Edwards, at Abbeville, March 15, 1885. George E. Beyer observed it at New Orleans, August 4, 1893; A. B. Blakemore, at the same locality, November 1, 1895; and A. H. Howell found this swallow at Mansfield, April 30, 1907. Three specimens in the museum of Tulane University at New Orleans were taken at New Orleans, May 4, 1890; R. A. Fitzgerald reported individuals that struck the South Pass Lightship at Port Eads, April 30, 1902; E. G. Wright collected one at Avery Island, May 8, 1930; and E. R. Kalmbach obtained specimens at Gueydan, August 7 and 25, 1925. Ambrose Daigre took one specimen at Grand Isle on April 28, 1936; and T. D. Burleigh, others at New Orleans, August 7, 1935, October 31, 1935, and September 12, 1936.

The Barn Swallow of the United States is without any doubt but a subspecies of the European Chimney Swallow, *Hirundo rustica*, and its scientific name therefore should be *Hirundo rustica erythrogastris*.

NORTHERN CLIFF SWALLOW

Petrochelidon albifrons albifrons (Rafinesque)

The Northern Cliff Swallow is a rare transient, from April 9 to June 12, and from August 2 to November 1, in most parts of Louisiana; recorded east to Plaquemines Parish, Saint James Parish, New Orleans, Madisonville, Bayou Sara, and near Marksville; west to Mansfield, Gueydan, and Baldwin. It is reported to breed in the State, and there is a specimen in the museum of Tulane University taken by George E. Beyer at Madisonville, June 12, 1886, but there is no definite nesting record for Louisiana.

A specimen in the Biological Survey was obtained by T. D. Burleigh at New Orleans on August 2, 1935; A. B. Blakemore reported this species at New Orleans, November 1, 1895; and George E. Beyer, at the same place on September 12, 1893. W. L. McAtee saw it near Marksville, September 11 to 15, 1912; and A. H. Howell reported five, of which one was collected, on May 2, 1907, at Mansfield. E. R. Kalmbach observed a flock south of Gueydan, May 26, 1925; and Mrs. G. L. Baldwin saw individuals at Baldwin, April 23 and 26, 1909. George H. Lowery, Jr., noted it at Monroe, April 15, 1933; and saw a large flock at Baton Rouge on April 25, 1934.

PURPLE MARTIN

Progne subis subis (Linnaeus)

The Purple Martin is well named, for the male is wholly metallic purplish black, the female duller above and dull grayish below, sometimes partly dull white. It is the largest of our swallows, being almost eight inches long. In summer it is found over a large part of North America from central Canada, south to the Gulf of Mexico. The winter it spends in South America as far south as Brazil.

It has a strong, powerful, swift flight, but is fond of sailing intermittently rather than flying continuously as do some of the species like the Barn Swallow. It is found in almost all kinds of country, although it is not so fond of the deep forests. Its preferred home is the more open country in the vicinity of human dwellings, whether in the country or in the city. At certain times of the year, particularly in the late summer and early autumn, the Purple Martin gathers into great companies which roost for the night in trees in the cities or towns, or in the marshes along streams or other bodies of water. Sometimes these gatherings contain tens of thousands of birds. On occasion it so heavily populates the trees that the branches are broken down by the weight of the birds. These roosts are sometimes occupied for several weeks just before the southward migration. The ordinary note of the Martin is a

rather mellow deep-toned note, several times repeated, that has been represented by the syllables 'perro'.

This is one of the most valuable of our North American swallows, particularly in so far as its food habits are concerned. The bird eats practically nothing but insects, with the exception of a few spiders. Its diet is made up of flies of various kinds, bugs like the squash bug, ants, beetles including the clover weevil and cotton-boll weevil, moths, butterflies and their caterpillars, grasshoppers, dragonflies, and similar insects.

The nest is placed either in some nook about a building, in a tree, or on a cliff, and at the present time particularly in bird houses. Sometimes the nests are in colonies of considerable size, especially when they happen to occupy a large bird house. The materials of the nest consist of grasses, small twigs, leaves, and feathers, together with sometimes a small quantity of mud. The eggs are usually four or five, pure white, without markings, and require from 12 to 20 days for hatching. Usually only a single brood is reared, and since the birds have to be cared for solicitously until they are able to fly the parents are active and attentive for a considerable period.

The Purple Martin is a common summer resident, from January 29 to October 22. It is generally distributed all over Louisiana, and reported north to Mer Rouge, Monroe, Choudrant, Bienville, and Caddo Lake; west to Shreveport, Cross Lake, Taylortown, Crichton, Mansfield, Natchitoches, Hagedwood, Fort Jesup, Many, Florien, Hornbeck, Leesville, Pickering, Rosepine, Longville, Vinton, and Toomey; south to Cameron Farm 14 miles south of Vinton, Sulphur, Lockport, Lake Charles, Jennings, Gueydan, Abbeville, Avery Island, Calumet Plantation near Patterson, Houma, Dulac in Terrebonne Parish, Bayou Penelle in Terrebonne Parish, Manila on Barataria Bay, Grand Isle, and Pilot Town; and east to Main Pass in the Mississippi River Delta, Diamond, Junior, Phoenix, New Orleans, Grassy Island in Lake Borgne, The Rigolets, Slidell, Mandeville, Madisonville, Hammond, Amite, Clinton, Bains, Frogmore, Ferriday, Wa-

terproof, Newellton, Thomastown, and Tallulah. It breeds chiefly from April to June; and there is record of eggs in the United States National Museum collected at Grand Coteau, June 6, 1887.

Ned Hollister saw this species at Mer Rouge, March 17, 1904, and during the following two days. Specimens were taken by A. H. Howell at Mansfield, May 2 and 3, 1907; by Ambrose Daigre at Grand Isle, April 7 and 8, 1936; and by T. D. Burleigh at New Orleans on September 11, 1935. The writer observed the species at Ferriday, Waterproof, Newellton, and Tallulah, June 16, 1933; and H. H. Kopman found it abundant at Thomastown, July 13 to 28, 1896. The writer noted it at Choudrant, June 17, 1933; at Caddo Lake, Shreveport, Cross Lake, Taylortown, and Crichton, June 18, 1933; Natchitoches, Hagewood, Many, Florien, Hornbeck, Leesville, Pickering, Rosepine, and Longville, on June 19, 1933; at Vinton, Toomey, Cameron Farm 14 miles south of Vinton, Sulphur, Lake Charles, and Jennings, June 20, 1933; Avery Island, June 21, 1933; Houma, Dulac, and Bayou Penelle in Terrebonne Parish, June 22, 1933; Manila on Barataria Bay, June 10, 1933; Grand Isle, June 9, 1933; Pilot Town and Main Pass in the Mississippi River Delta, June 7, 1933. H. L. Ballowe reported it at Diamond as a common summer resident, and noted its arrival in 1902 on April 1. H. H. Kopman saw it at Junior, August 4 to 5, 1917; Phoenix, September 12, 1917; Hammond, March 4, 1920; and Amite, March 27, 1918. George E. Beyer reported its arrival at New Orleans, January 31, 1894; and as breeding at Clinton and Madisonville in 1891. George H. Lowery, Jr., finds it a common summer resident at Baton Rouge, where in 1935 it arrived on February 16. Edward Butler recorded its arrival at Bains, where it breeds, on February 18, 1922. The writer observed it on Grassy Island in Lake Borgne, June 2, 1933; at The Rigolets on the same day; and at Slidell, June 27, 1933. E. R. Kalmbach found this species common throughout the rice belt in the vicinity of Gueydan, from May to September 9, 1925. J. S. Campbell considers it a common summer resident at Bienville, from February to September.

Family CORVIDAE

FLORIDA BLUE JAY

Cyanocitta cristata cristata (Linnaeus)^{18*}

The Blue Jay is one of the best known of the birds in most parts of the eastern United States. It is often called 'jay bird', or simply 'jay', and is easily distinguished anywhere. Its bright blue upper parts with blackish markings, and white lower surface, together with its crest, make it conspicuous.

It lives everywhere, not only in the forests, the open country, cultivated lands, but also even in the towns and cities. In one or the other of these areas it is found over practically all the eastern United States and southeastern Canada. It is migratory in the more northern parts of its range. The Florida Blue Jay, which is one of the southern representatives of the species, does not differ in general habits from the more northern bird. It has a rather strong though not particularly rapid flight, and sometimes assembles into small flocks, although it is not so gregarious as a great many of our other birds. Its ordinary note is a harsh cry very much like the syllable 'jay' several times repeated. It also has other notes much less harsh, and on occasion it imitates the calls of other birds, such as the Red-shouldered Hawk and even some song birds. It is a noisy bird and the commotion that it sometimes creates does not seem to be due to any particular cause. It is fond of worrying hawks, crows, and particularly owls, although like a great many bullies it is quick to retreat when its victims show fight.

The food of the Blue Jay is much varied. It consists of various kinds of insects, such as May beetles, grasshoppers, caterpillars (some of them hairy kinds, such as the caterpillars of gypsy and brown-tailed moths), and the eggs of various kinds of insects. Other items of food consist of salamanders, frogs, small fishes, snails, spiders, mice, and sometimes small birds. It also destroys eggs

^{18*}*Cyanocitta cristata florincola* of the 1931 A. O. U. Check-List.

and young of song birds, and in places where this bird is numerous the small birds suffer considerably from its attacks. It eats also some wild fruits and nuts, but not much cultivated fruit.

This bird breeds in woodlands or on the edges of such places, in trees in cultivated areas, and even in the parks or streets of towns and cities. The nest is a bulky structure, usually in a tree or tall bush, and once in a great while in a hollow tree. It is composed of twigs, rootlets, bark, weed-stalks, grasses, and leaves, and occasionally mud; and lined with strips of bark, grass, leaves, or feathers. The eggs are usually four or five, buff or greenish, blotched and spotted with various shades of brown and drab. Somewhat more than two weeks are required for the hatching of the young, and only one brood is ordinarily reared.

The Florida Blue Jay is a permanent resident, fairly common in summer, common during the winter and the migrations, over all of Louisiana, wherever there are suitable trees, except possibly in parts of the Gulf Coast region. It has been reported north to Lake Providence, Oak Grove in West Carroll Parish, Mer Rouge, Monroe, Bienville Parish, and Belcher; west to Caddo Lake, Cross Lake, Shreveport, Crichton, Mansfield, Natchitoches, Robeline, Fort Jesup, Florien, Sandel, Gillis, and the Cameron Farm 14 miles south of Vinton; south to Lake Charles, Iowa (La.), Lake Arthur, Crowley, lower Vermilion River, Rainey Wild Life Sanctuary, Chenier au Tigre, Avery Island, Baldwin, Houma, and Junior; and east to New Orleans, Lake Catherine, Slidell, Pearl River, Hackley, Simmesport, Frogmore, Waterproof, Saint Joseph, Newellton, Somerset, Singer Preserve on the Tensas River in Madison Parish 13 miles southwest of Tallulah, Tallulah, and East Carroll Parish. It breeds from April to June.

This is doubtless the resident form of the Blue Jay throughout Louisiana, as specimens examined from the following localities in both the northern and southern parts of the State indicate: Marrero, no date; Plaquemines Parish, December, 1862; New Orleans, June 1, July 6, 1937, and May

21, 1935; Jefferson Parish, March 9, 1895; Madisonville, no date; Micheaud, January 3, 1894; Bayou Tunica, March 16, 1884; Vermilion Parish, December 13, 1932; Iowa (La.), April 8, 1899; Chenier au Tigre, March 10, 1931, January 1 and 2, 1934; Belcher, February 3, 4, and 5, 1908; and by T. D. Burleigh at Golden Meadow on October 6, 1937. Vernon Bailey noted this bird at Mer Rouge, June 2 to 7, 1892; E. R. Kalmbach at Crowley, April 26 to September 28, 1925; Mrs. G. L. Baldwin reported it resident at Baldwin; and H. H. Kopman observed it at Junior, August 4 to 5, 1917; and at Simmesport, August 31 to September 2, 1917. A. H. Howell found it at Slidell, October 28 to November 1, 1908; and at Hackley, February 20 to 24, 1912. J. S. Campbell regards it an abundant permanent resident in Bienville Parish. E. R. Kalmbach noted it common at Tallulah, June 13 to July 13, 1924; and Ned Hollister reported it common in the woods of Morehouse, West Carroll, and East Carroll parishes, February 11 to March 20, 1904. The writer, however, found it rather uncommon on the Singer Preserve, June 16 and 17, 1933. He observed it also at Caddo Lake, Cross Lake, Shreveport, and Crichton, June 18, 1933; Sandel, Natchitoches, Fort Jesup, Florien, and Gillis, June 19, 1933; at Cameron Farm 14 miles south of Vinton, and Lake Charles, June 20, 1933; Lake Arthur, December 30, 1932; lower Vermilion River and the Rainey Wild Life Sanctuary, January 22, 1928; Avery Island, June 21, 1933; Pearl River, June 27, 1933; Frogmore, Waterproof, Saint Joseph, Newellton, and Somerset, June 16, 1933; and Waverly, June 17, 1933.

As is explained in the account of the Northern Blue Jay given below, the scientific name of the Florida Blue Jay should be *Cyanocitta cristata cristata*, since from both locality and the identity of the plate on which the name rests this name refers to the southern bird.¹⁸⁷

¹⁸⁷Oberholser, The Auk, Vol. XXXVIII, No. 1, January 18, 1921, p. 84.

NORTHERN BLUE JAY

Cyanocitta cristata bromia Oberholser¹⁸⁸

The Northern Blue Jay is a winter resident, probably not uncommon, at least in northern and central Louisiana.

Since it is undistinguishable in the field from the Florida form it may be more numerous than the specimens available indicate. The writer has been able to examine, however, only four specimens from the State: a single male from Lobdell in West Baton Rouge Parish, collected by F. H. Carruth, January 9, 1903, now in the United States National Museum; two specimens obtained by Winston E. Nolan at New Orleans, February 15, 1933, and December 11, 1932, respectively; and one other male taken by T. D. Burleigh at Golden Meadow on October 6, 1937.

The original description of the Blue Jay by Linnaeus¹⁸⁹ was based on the bird from South Carolina as described by Catesby. The figure given by Catesby refers undoubtedly to the Southern instead of the Northern Blue Jay, and, therefore, the name given by Linnaeus should apply to the southern race, as has already been shown.¹⁹⁰ This makes necessary the use of the name *Cyanocitta cristata bromia* for the Northern Blue Jay.

EASTERN CROW

Corvus brachyrhynchos brachyrhynchos Brehm

Few birds anywhere are better known than is the Crow, often called 'Common Crow'. The wholly black plumage and rather large size, for this bird is a foot and one-half long, will readily identify it anywhere.

The Crow lives not only in the heavy forests, but in all kinds of country, even along the seashore, although it is not so much a coast bird as is the Fish Crow. Its flight is slow and steady, but capable of being long sustained. At times other than the breeding season this bird assembles into large flocks, which gather at night in groves or other

¹⁸⁸*Cyanocitta cristata cristata* of the 1931 A. O. U. Check-List.

¹⁸⁹Syst. Nat., ed. 10, Vol. I, January 1, 1758, p. 106.

¹⁹⁰Oberholser, The Auk, Vol. XXXVIII, No. 1, January 18, 1921, p. 84.

woodlands for the purpose of roosting. These roosts are occupied often not only night after night, but in some cases year after year, and are interesting gatherings.

The well-known call of the Crow is often a signal for the attacks of smaller birds, for they usually recognize in him an enemy to their home life. While the common note of the Crow is familiar, the bird has also other less well known calls. It also is possessed of no mean imitative ability; often birds, particularly those that are kept in captivity, can learn to repeat various words and short phrases. The Crow makes an interesting pet, although it is always full of mischief and is likely to pick up and make off with all kinds of small articles that it can carry, particularly if these happen to be bright and easily attract the attention of the bird.

This bird in its food habits is almost omnivorous. It will eat almost anything that it happens to find: insects of various kinds, reptiles, mammals, young birds, birds' eggs, crustaceans, worms, and various other animal food, even carrion, are acceptable. Much damage is done by the Crow to poultry and their eggs, but one of the greatest injuries that the Crow does is the destruction of the eggs and young of small birds. Various kinds of vegetable food, such as corn, and all sorts of grain, seeds, acorns, and nuts, are commonly eaten. The damage to cultivated fruit and vegetables, is also at times considerable. Much controversy has raged regarding the economic position of the Crow, and even now the question may not be considered finally settled. In some places the Crow undoubtedly does a great deal of damage, and in others it is of considerable benefit through its destruction of noxious insects.

This bird breeds in all kinds of woodlands, sometimes in trees in more open country, usually at a considerable distance from the ground. The nest is a large bulky structure, of sticks, bark, leaves, grasses, weed-stalks, and similar materials, lined with hair, wool, fine grass, roots, and bark strips. The eggs are usually three to five, rather light green or olive buff, and marked with various shades of

brown and gray. The period of incubation is about two and one-half weeks; and the adult birds are very active in the care of their young, which remain in the nest until they are able to fly. Ordinarily when the nest is approached the adult birds disappear, but on other occasions they become very solicitous.

The Eastern Crow is a winter visitor to Louisiana, probably of more frequent occurrence than our present knowledge would indicate. There is but one definite record of this subspecies from Louisiana, that of a single specimen now in the museum of the Louisiana Department of Conservation at New Orleans, collected at Marrero, November 20, 1931.

SOUTHERN CROW

Corvus brachyrhynchos paulus Howell

The Southern Crow, which differs from the Eastern Crow in smaller size, is a permanent resident, fairly common in summer, common at other seasons, throughout practically all Louisiana, except possibly the Mississippi River Delta, where it is at least a winter resident. It has been reported north to Lake Providence, Oak Grove in West Carroll Parish, Dunn, Monroe, Bienville Parish, Foster, and Belcher; west to Cross Lake, Shreveport, Mansfield, Logansport, Natchitoches, Vinton, and Cameron Farm 14 miles south of Vinton; south to Sulphur, Iowa (La.), Lake Arthur, Gueydan, Kaplan, Abbeville, New Iberia, Avery Island, Chenier au Tigre, Little Wax Bayou, Avoca Island, Houma, Bayou Chene, Little Barataria Bayou, Bayou Dupont, Grand Isle, and Pilot Town; and east to Pass a Loutre in the Mississippi River Delta, Junior, Belair, Westwego, New Orleans, Lake Catherine, Slidell, Pearl River, Mandeville, Madisonville, Hackley, Simmesport, Jena, Waterproof, Newellton, Tallulah, and East Carroll Parish. It breeds from February to May; and there is record of eggs as early as February 21.

The Southern Crow is without much doubt the breeding form of all Louisiana, since the writer has examined speci-

to May 18, 1925; and he saw it on August 11 and 12 of the same year at the mouth of the Mermentau River. H. H. Kopman noted it at Junior, August 4 to 5, 1917; at Phoenix, October 23, 1917; at Belair, October 21, 1917; at Caernovan, April 16 to 18, 1918; at Deer Range Plantation in Plaquemines Parish, August 5, 1917; at Mandeville, August 18, 1917; also at Hammond, August 21, 1920, and April 26, 1918. Edward Butler noted its arrival at Bains, March 26, 1922; and W. W. Edwards, at Abbeville, March 15, 1885. George E. Beyer observed it at New Orleans, August 4, 1893; A. B. Blakemore, at the same locality, November 1, 1895; and A. H. Howell found this swallow at Mansfield, April 30, 1907. Three specimens in the museum of Tulane University at New Orleans were taken at New Orleans, May 4, 1890; R. A. Fitzgerald reported individuals that struck the South Pass Lightship at Port Eads, April 30, 1902; E. G. Wright collected one at Avery Island, May 8, 1930; and E. R. Kalmbach obtained specimens at Gueydan, August 7 and 25, 1925. Ambrose Daigre took one specimen at Grand Isle on April 28, 1936; and T. D. Burleigh, others at New Orleans, August 7, 1935, October 31, 1935, and September 12, 1936.

The Barn Swallow of the United States is without any doubt but a subspecies of the European Chimney Swallow, *Hirundo rustica*, and its scientific name therefore should be *Hirundo rustica erythrogastris*.

NORTHERN CLIFF SWALLOW

Petrochelidon albifrons albifrons (Rafinesque)

The Northern Cliff Swallow is a rare transient, from April 9 to June 12, and from August 2 to November 1, in most parts of Louisiana; recorded east to Plaquemines Parish, Saint James Parish, New Orleans, Madisonville, Bayou Sara, and near Marksville; west to Mansfield, Gueydan, and Baldwin. It is reported to breed in the State, and there is a specimen in the museum of Tulane University taken by George E. Beyer at Madisonville, June 12, 1886, but there is no definite nesting record for Louisiana.

FISH CROW

Corvus ossifragus Wilson

The Fish Crow is a small edition of the Southern Crow, and, in appearance, is scarcely distinguishable in the field. Its note, however, is a hoarse, guttural call, and is the best means of distinguishing this bird from the Southern Crow. Its general habits are very similar to that of the Common Crow, although it is much more of a coast bird, and except in a few places is not found at any considerable distance from the Atlantic and Gulf coasts. It is a bird of much more limited distribution than the Common Crow, being found but rarely as far north as New England and not farther west than Texas. Sometimes it associates with the Common Crow, and occupies country that is very similar in general character. It does not, however, appear to assemble into such large flocks as does that bird.

Its food is similar to that of the other crows, but it apparently eats a larger proportion of animal food. Its regular habitat being more along rivers and inlets, one would suppose that naturally its food should consist more of fishes, crustaceans, and similar animals. Its diet comprises mollusks, crawfishes, shrimps, crabs, in addition to various kinds of fishes; and it destroys a great many eggs and young of various species of birds, such as herons, rails, terns, plovers, and similar kinds. At times its feeding stations show heaps of the shells of such birds' eggs as those of herons, the contents of which have been eaten by this crow. In addition to its animal food it takes also various kinds of wild fruit, such as grapes, mulberries, pokeberries, and seeds of the dogwood, magnolia, and sorghum. The bird also disturbs cultivated fruits and vegetables.

The nest of this bird is situated in a tree, often in an evergreen tree, and rather high from the ground. It is composed of various kinds of sticks, sometimes Spanish moss, pine needles, and bark; and is lined with such materials as animal hair, eelgrass, animal droppings, grass, and pine needles. The four or five eggs are similar in color

to those of the Common Crow, but are somewhat smaller in size.

The Fish Crow is a permanent resident over most of Louisiana, common in the Gulf Coast region, from Black Bayou in Cameron Parish, Calcasieu Pass, Calcasieu Lake, Chenier au Tigre, Chacahoula, Raceland, Kenner, New Orleans, Lake Catherine, and The Rigolets, north to Slidell, Pearl River, Mandeville, Madisonville, Bedico River, West Baton Rouge Parish, Paradis, Avery Island, New Iberia, Mallett Bay 15 miles southwest of Gueydan, Lake Charles, Sulphur, Vinton, and Toomey; and it is of rare and very local distribution throughout the rest of the State, north to Natchitoches, Cross Lake, Vivian, Caddo Lake, Lake Bistineau, and near Monroe. The absence of available records from southern Terrebonne Parish, southern La Fourche Parish, and most of Plaquemines Parish, including the Mississippi River Delta, is perhaps not significant. It breeds from late March to June, and there is record of eggs as late as May 12.

The most interesting feature of the distribution of this species in the State is its occurrence in the northwestern part of the State, so far from the coast region, to which this species is in most parts of its range rather closely confined. There is, however, no question regarding the presence of this species in northern Louisiana. H. H. Kopman has found it at Cross Lake, near Shreveport; J. S. Campbell at Lake Bistineau in summer; and George H. Lowery, Jr., has recorded it on the Ouachita River, south of Monroe.¹⁹¹ The writer observed it at Natchitoches, June 19, 1933, and at Caddo Lake, June 18, 1933; and there is a specimen in the museum of Tulane University taken at Vivian in Caddo Parish, February 23, 1894.

E. R. Kalmbach found the Fish Crow common at Black Bayou in early May, 1919; and the writer noted it also common in the same region, January 27, 1928. G. Würdemann collected eggs of this species at Calcasieu Pass in 1854, which were sent by him to the Smithsonian Institution; and a bird in the United States National Museum from

¹⁹¹Bull. La. Poly. Inst., Vol. XXIX, No. 4, November, 1931, p. 34.

Cameron Parish was collected on January 18, 1879. There are also eggs in the collection of the museum of Tulane University, taken at New Orleans in 1895.

Specimens in the museum of Tulane University at New Orleans were taken on Bedico River, July 20 to August 4, 1890; at New Orleans, April 4, 1881, and April 18, 1894. George E. Beyer reported it common and breeding at Madisonville in 1891. E. R. Kalmbach observed the species on the east side of Mallett Bay, 15 miles southwest of Gueydan, July 8, 1925; and W. L. McAtee found it common at Vinton, December 31, 1910. The writer noted this crow at Calcasieu Lake, December 30, 1932; at Toomey and Sulphur, June 20, 1933; at Lake Charles, June 19, 1933; Avery Island, December 28, 1932, and June 21, 1933; on Honey Island in Pearl River, at The Rigolets, and Slidell on June 27, 1933. Additional specimens were obtained by A. M. Bailey at Chenier au Tigre on December 12 and 13, 1925; and by J. T. Sepulvado at Egan on March 26, 1937.

Family PARIDAE

LOUISIANA CHICKADEE

Penthestes carolinensis guilloti Oberholser, new subspecies¹⁹⁹

Subspecific characters.—Similar to *Penthestes carolinensis impiger* from Florida, but upper parts paler and more grayish. Like *Penthestes carolinensis carolinensis* but decidedly smaller.

Measurements.—Adult male: wing, 57-61 (average, 58.9) mm.; tail, 48-54.3 (50.5); exposed culmen, 6.8-7.5 (7.1); tarsus, 16; middle toe without claw, 9.5-11 (9.9). Adult female: wing, 53-59 (56.6); tail, 46.5-52 (48.5); exposed culmen, 6.5-7.5 (7.2); tarsus, 15-16.5 (15.6); middle toe without claw, 9-10 (9.7).

Type.—Adult male, No. 193567, United States National Museum, Biological Survey Collection; Belair, Louisiana, April 1, 1904; W. E. Forbes and N. Hollister, original number, 24.

¹⁹⁹Named for Mr. James P. Guillot, the Secretary of the Louisiana Department of Conservation.

Geographic distribution.—Lower Mississippi valley region in the central southern United States; north to central Alabama, southwestern Kentucky (Hickman), southeastern Missouri (Puxico), southern Arkansas (Wilmot and Camden); west to central eastern Oklahoma (Stillwell) and eastern Texas; south to southeastern Texas, southern Louisiana, and southern Mississippi; and east to southeastern Mississippi (Biloxi) and central western Alabama (Squaw Shoals and Jackson).

This chickadee has some resemblance to the Texas *Penthestes carolinensis agilis*, but is darker above and is decidedly smaller, particularly in length of wing and tail. One specimen from Stillwell, Oklahoma, verges towards this Texas race. Birds from southeastern Mississippi are more or less intermediate between *Penthestes carolinensis guilloti* and *Penthestes carolinensis impiger*; and those from Alabama show intergradation with *Penthestes carolinensis carolinensis*.

It is interesting to note that John James Audubon collected near New Orleans the specimen of this species that he drew for his "Birds of America", late in the year 1820. His type of *Parus carolinensis*, however, came from Charleston, South Carolina, and this name therefore applies to the form from North Carolina, South Carolina, and Georgia.

The writer takes a great deal of pleasure in dedicating this new chickadee to Mr. James P. Guillot, the genial Secretary of the Louisiana Department of Conservation, to whom he is deeply indebted for many courtesies.

This chickadee is found in the woodlands, thickets, and even the more open country, as well as in the parks and streets of the towns and cities. It is partial to the borders of forests and to thickets, although it frequently comes into the towns. It is fond also of the vicinity of dwellings, particularly in winter, and it is one of the species that is readily attracted to a feeding shelf. It is frequently also associated with other birds, like kinglets, titmice, and nuthatches, and sometimes in company with these birds it forages in parties through the woodlands and thickets. Usually

it is found singly or in small companies and is ordinarily an active bird, clinging upside down and in all sorts of positions to the branches of the trees and shrubs, in its search for food. Its cheery note, which closely resembles the syllables 'chickadee', is very characteristic, and cannot easily be mistaken for that of any other bird. In addition to its note it has a pleasing melodious whistle of from four to six notes, which is somewhat like the song of the northern Black-capped Chickadee, which latter bird, however, does not occur in Louisiana.

The food of this chickadee consists largely of insects, such as moths and their caterpillars, plant lice, tree hoppers, various kinds of bugs, ants, beetles, wasps, and others. Some of its food is made up of berries, such as blueberries, blackberries, poison ivy, and various small seeds.

The nest is placed in more or less natural cavities or old woodpecker holes in rather decayed stubs, or stumps, usually not far above the ground. Into these places the bird brings grass, shreds of bark, and similar materials, and completes the nest with a lining of fur, hair, and feathers. The five to eight eggs are white, speckled with reddish brown.

The Louisiana Chickadee is a fairly common permanent resident in the woods and thickets of most of Louisiana, excepting the marshes of the Gulf Coast region; reported north to Lake Providence, Oak Grove in West Carroll Parish, Monroe, Ruston, Bienville, Foster, and Belcher; west to Caddo Lake, Cross Lake, Mansfield, Natchitoches, Robeline, and Fort Jesup; south to Sulphur, Avery Island, Baldwin, Bayou Chene, Houma, Bayou Des Allemands, Bayou La Fourche, and Buras; and east to Belair, New Orleans, Mandeville, Madisonville, Bedico River, Clinton, Bains, Simmesport, Trout, Tallulah, and East Carroll Parish. It breeds from March to May; and there is record of eggs on April 1.

Specimens examined from various parts of Louisiana indicate that this is the only form of the species that occurs

in the State, and, therefore, the records of the Plumbeous Chickadee, *Penthestes carolinensis agilis*, should really refer to the Louisiana Chickadee. The identification of Louisiana birds as the Plumbeous Chickadee was made before the acquisition of the considerable amount of additional material that is now available. The writer has seen specimens of *Penthestes carolinensis guilloti* from New Orleans, taken, March 10, 1889, March 31, 1890, December 13, 1882, November 10, 1882, April 18, 1935, June 17, 1935, October 30, 1935, November 9 and 16, 1935; Jefferson Parish, March 12, 1904, March 23, 1895; Bedico River, July 21, 1888; Sauve, December 18, 1888; Lecompte, January 11, 1908; Clarks, January 6, 1908; Belair, April 1 and 6, 1904; Mansfield, January 24, 1908; Foster, five miles from Shreveport, January 28, 1908; Belcher, February 3, 1908; Ruston, March 27, 1909, and Baton Rouge, April 23, 1937. Others, obtained by G. K. Cherrie, not seen in the present connection, came from Chef Menteur, January 24, 1896; Buras, January 30, February 1 and 4, 1896; and New Orleans, February 15, 1896.

This bird was unusually numerous in the heavy bottom-land forests of the Singer Preserve 13 miles southwest of Tallulah on the Tensas River in Madison Parish, when the writer was there on June 17, 1933; and Ned Hollister reported it common in West Carroll and East Carroll parishes, March 6 to 13, 1904. The writer observed it at Trout, June 16, 1933; at Cross Lake and Caddo Lake, June 18, 1933; at Natchitoches, Robeline, and Fort Jesup, June 19, 1933; at Sulphur, June 20, 1933; and at Avery Island, December 28, 1932. H. H. Kopman found it at Bayou Des Allemands, June 19 to 21, 1917; Bayou La Fourche, August 24, 1917; at Mandeville, August 18, 1917; and at Simmesport, August 31 to September 2, 1917. George E. Beyer reported it breeding commonly at Clinton and Madisonville in 1891; and Edward Butler, at Bains in 1916. Specimens were taken at Madisonville by A. K. Fisher on May 30, 1886. J. S. Campbell records a nest found at Bienville on April 1, 1934.

TUFTED TITMOUSE

Baeolophus bicolor (Linnaeus)

The Tufted Titmouse is a gray bird, somewhat larger than the Louisiana Chickadee, rather lighter below, with a short crest, a blackish forehead, and rufous tinted sides.

It lives in the woodlands, thickets, and timber along streams, but is often found in more open areas, such as cultivated lands, open brushy, or sparsely wooded pastures. At times it comes familiarly to houses, particularly in the country, and even in towns. It is not hard to find, because rather noisy. Its ordinary scolding note is harsh and moderately loud. Its ordinary call is a clear whistled 'peto' several times repeated. It is an active bird and is frequently seen climbing about the branches and twigs of the trees and bushes, much after the habit of the Louisiana Chickadee.

It lives on various kinds of insects, such as wasps, bees, beetles including the cotton-boll weevil, scale insects, bugs, and tree hoppers; a few snails and spiders are also an element of its diet. It subsists largely on acorns, various kinds of wild fruit, such as mulberries, huckleberries, and elderberries, with the seeds of such plants as the wax-myrtle, poison ivy, and sumac.

It builds its nest usually in woodlands, sometimes on their margins, and in swamps. The nest is placed either in a natural cavity in a tree or in an old woodpecker hole, and sometimes in a cavity made by the bird itself in a fence post or dead stump, not infrequently in a bird house, ordinarily not high above the ground. The materials of the nest are hair, bark, grass, leaves, moss, feathers, and similar substances. The eggs are usually five or six, white or pale buff, speckled with reddish brown and lavender. Only a single brood is reared, and the female apparently does most of the housekeeping.

The Tufted Titmouse is a fairly common permanent resident in the woodlands of most of Louisiana, reported north to Lake Providence, Oak Grove in West Carroll Parish, Holly Ridge, Start, Crew Lake, Monroe, Bienville, and

Belcher; west to Caddo Lake, Cross Lake, Crichton, Mansfield, Hagedwood, Robeline, Fort Jesup, Many, Fisher, Anacoco, De Ridder, Longville, and the Sabine River bottoms at Orange, Texas; south to Bayou Queue de Tortue north of Gueydan, Avery Island, Baldwin, Dulac, Bayou Dupont, Delta Duck Club on Octave Pass in the Mississippi River Delta; and east to Belair, Westwego, New Orleans, Pearl River, Mandeville, Madisonville, West Feliciana Parish, Frogmore, Ferriday, Newellton, the Singer Preserve 13 miles southwest of Tallulah, and Tallulah. It breeds chiefly in April.

The writer has seen specimens of this species from Belair, March 31, 1904; Lecompte, January 13 and 14, 1908; February 11 and 12, 1908; Clarks, January 6, 1908; Mansfield, January 24, 1908; Belcher, February 7, 1908; Madisonville, May, 1888; and New Orleans, April 4, 1896. E. R. Kalmbach saw it at Bayou Queue de Tortue, north of Gueydan, May 17 and 31, 1925. H. H. Kopman found it at Oaklawn near Lacombe, August 17, 1917; at New Orleans, July 10 to 24, 1917; and at Mandeville, August 18, 1917. E. R. Kalmbach reported it common at Tallulah, June 13 to July 13, 1924; and the writer found it numerous on the Singer Preserve in the heavy bottomland forests of the Tensas River in Madison Parish, June 16 and 17, 1933. He observed this titmouse also at Frogmore, Ferriday, and Newellton, June 16, 1933; at Holly Ridge, Start, and Crew Lake, June 17, 1933; at Caddo Lake, Cross Lake, and Crichton, June 18, 1933; at Natchitoches, Hagedwood, Robeline, Fort Jesup, Many, Fisher, Anacoco, De Ridder, and Longville, June 19, 1933; at Dulac on Grand Caillou Bayou in Terrebonne Parish, June 22, 1933; on Bayou Dupont in Jefferson Parish, June 10, 1933; at Westwego, June 23, 1933; at Pearl River, June 27, 1933; and at the Delta Duck Club on Octave Pass in the Mississippi River Delta, January 19, 1928.

J. S. Campbell discovered at Bienville on April 7, 1934, a nest of this titmouse which was situated at the unusual height of 110 feet from the ground.

Family SITTIDAE

FLORIDA NUTHATCH

Sitta carolinensis carolinensis Latham¹⁰⁰

This bird is easily distinguished from the other nuthatches of this region by its bluish gray upper parts, black top of the head and neck, and white lower parts. Its general behavior, too, is of considerable help in identification.

It is an inhabitant of woodlands, orchards, and other cultivated areas, shade trees about houses, and in fact even the parks and streets of the towns and cities. It is primarily a bird of the trees and is usually found in them, although at times it does frequent other places, such as fences, and it even descends to the ground. It is an active bird and runs readily up and down the trunks and branches of the trees, either upside down or in almost every other conceivable position, and unlike the woodpeckers it descends head first and always without the use of its tail as a prop. By this alone it is readily distinguished from the woodpeckers that frequent similar places. It does not usually gather into companies of any considerable size, but one or a few frequently accompany small gatherings of various other birds, such as chickadees, titmice, kinglets, and others, in their foraging through the woods and thickets. Its ordinary voice is a nasal 'quank', 'quank', which is rather distinctive.

It lives on both vegetable and animal food, the latter consisting of various kinds of insects, such as moths, flies, ants, weevils, other beetles, bugs, and caterpillars. It eats also some spiders. The vegetable part of its food consists of acorns, beechnuts, hickory nuts, together with seeds, such as those of the sunflower, berries like those of the Virginia creeper, likewise corn, and seeds of the pine. The nuts of various kinds that the bird eats are made available by placing them in a suitable crack or other opening and then breaking them with the bill.

¹⁰⁰*Sitta carolinensis atkinsi* of the 1931 A. O. U. Check-List.

The nest is ordinarily in a natural cavity of a tree, a deserted woodpecker hole, a hole in a post, or similar site. Occasionally the bird excavates its own home, and it is also fond of using nesting boxes or bird houses, even close to a dwelling. The eggs are usually five or six, white, spotted with reddish brown and lilac. Only a single brood is ordinarily reared.

The Florida Nuthatch is an uncommon permanent resident, somewhat more frequently observed during the winter, in northern and southeastern Louisiana; reported north to West Carroll Parish, Mer Rouge, Monroe, Bienville Parish, and Belcher; west to Frierson, Gayle, Mansfield, Logansport, Little River valley near White Sulphur Springs in La Salle Parish, and Jena; south to Bedico River and Madisonville; and east to Covington, Hackley, Clinton, and Bear Lake three miles northwest of Tallulah. It is apparently not recorded from southwestern Louisiana. It breeds principally in April.

Specimens examined from Belcher, in northwestern Louisiana, from Bedico River, August 21, 1890, Madisonville, July 10 and 23, 1888, and one taken by George H. Lowery, Jr., at Monroe, December 26, 1937, are all referable to the Florida Nuthatch, *Sitta carolinensis carolinensis*, and indicate that this is the breeding form in Louisiana. An individual of this species struck the Southwest Reef Lighthouse at the mouth of Atchafalaya Bay, October 23, 1908, as reported by S. Jones. Vernon Bailey saw it at Mer Rouge, June 6, 1892; the writer found this nuthatch fairly common on the Singer Preserve 13 miles southwest of Tallulah on the Tensas River in Madison Parish, June 16 and 17, 1933; and Ned Hollister noted it about Bear Lake, northwest of Tallulah, between February 17 and March 6, 1904. A. H. Howell met with it at Logansport, August 25 to 27, 1906; Mansfield, April 30, 1907; and also at Hackley in southeastern Louisiana on February 24, 1912. George E. Beyer reported it breeding at Clinton and Madisonville in 1891; H. H. Kopman saw it at Covington, October 18, 1903; the writer found it at Jena, and in the Little River valley

near White Sulphur Springs in La Salle Parish, June 16, 1933. J. S. Campbell regards it as a common permanent resident in Bienville Parish.

The original description of the White-breasted Nuthatch, *Sitta carolinensis*,¹⁹⁴ was based on the bird from South Carolina, which has been shown to be the same as the bird from Florida. Therefore, this name should apply to the Florida bird, instead of to the bird from the northeastern United States; and the name of the Florida Nuthatch should thus be *Sitta carolinensis carolinensis*, instead of *Sitta carolinensis atkinsi*, as the writer has elsewhere explained.¹⁹⁵

RED-BREASTED NUTHATCH

Sitta canadensis Linnaeus

The Red-breasted Nuthatch is a very rare winter visitor, from November 18 to February 26, at least in northern Louisiana, and probably also in the southern part of the State, since it has been found in southern Mississippi. The only definite records for Louisiana are: a bird seen at Monroe, by George H. Lowery, Jr., November 16, 1930; and individuals observed by J. S. Campbell at Bienville, December 3, 1932, and February 10, 1933; at Friendship, February 26, 1932; and at Lucky, on November 18, 1933.¹⁹⁶

BROWN-HEADED NUTHATCH

Sitta pusilla pusilla Latham

Similar in form and appearance to the Florida Nuthatch, the present bird differs and is easily identified by its brown instead of black head, and somewhat smaller size. In habits it is also very similar to its larger relative.

It lives preferably in the pine forests, and is more of a woodland bird, not so often being found in cultivated areas. The notes are rather less nasal, and not so loud as those of the Florida Nuthatch.

¹⁹⁴Latham, *Index Ornith.*, Vol. I, 1790, p. 262.

¹⁹⁵The Auk, Vol. XXXIV, No. 2, March 31, 1917, pp. 182-183.

¹⁹⁶Lowery, *Bull. La. Poly. Inst.*, Vol. XXXIX, No. 4, November, 1931, p. 34.

The food of this bird consists chiefly of insects, which include moths, grasshoppers, beetles, many of these injurious kinds; ants, caterpillars, and scale insects; also pine seeds and spiders.

The nest is excavated by the bird in dead stubs or posts, usually not high above the ground, although sometimes as much as 50 feet. Both male and female take part in the nest construction. The cavity that is finally produced is sometimes a foot deep, and in it is placed a considerable quantity of grass, cotton, feathers, wool, and other similar substances. The eggs are usually five or six, creamy white, marked with reddish brown and lavender gray.

The Brown-headed Nuthatch is a rare permanent resident in the pine and mixed woodlands of western, central, and southern Louisiana; recorded north to Lake Providence, Monroe, Liberty Hill, and Caddo Parish; west to Mansfield and Iowa (La.); south to Iowa (La.), Mandeville, and Oaklawn; and east to Mandeville, Madisonville, Covington, Hackley, Saint Helena Parish, Clinton, and Lake Providence. It is apparently absent from the Mississippi River Valley and the marshes of the Gulf Coast region in southern Louisiana. It breeds in March and April.

The writer has examined specimens of this nuthatch in the museum of Tulane University from Madisonville, April, 1886, and July 2 and 15, 1888; Covington, October 25, 1889, Gustave Kohn; and Clinton, June 11, 1888. He has also seen specimens collected by Winston E. Nolan at Mandeville, February 14, 1933; and from Mansfield, collected by A. H. Howell, April 27, 1907. A. H. Howell obtained other individuals at Mansfield, April 29 and 30, 1907; and noted the species at Hackley, February 20 to 24, 1912. George E. Beyer reported it in 1891 as breeding at Clinton; and H. H. Kopman, as fairly common at Oaklawn near Lacombe in Saint Tammany Parish on August 17, 1917. George H. Lowery, Jr., considers it common in the pine woodlands of the Baton Rouge region. L. E. Hicks saw a single bird at Lake Providence, December 22, 1931. J. S. Campbell says that it is a common resident of the pine areas of Bienville Parish; and reports a nest from Liberty Hill.

Family CERTHIIDAE

BROWN CREEPER

Certhia familiaris americana Bonaparte

A long, slender, curved bill, together with a soft, spiny, rather long tail, give this small bird, which is something like five and one-half inches in length, an appearance that makes it readily identifiable. It is rather yellowish brown above and white below, and like the woodpeckers climbs up the sides of the tree trunks in quick movements around the trunk of the tree until it is high enough for its purpose. Then it flies down to another tree to begin another ascent. It is not shy and can easily be observed, and for this reason its habits and general behavior aid in its identification.

It is seldom found except singly or in pairs, although it frequently accompanies other small birds, such as chickadees, kinglets, and similar kinds, in their sorties through the forest. It is mostly a woodland bird, although it at times appears in cultivated areas and even close to dwellings in the country and in towns. It has a very thin, wiry, voice, that is even less conspicuous than that of the kinglets.

The food of this bird is made up of various kinds of insects and their eggs, such as caterpillars, ants, bugs, wasps, weevils and other beetles, leaf hoppers, and plant lice; together with a few spiders and small seeds.

The nest is situated in swamps or woodlands, not high from the ground, and under a loose piece of bark, or sometimes in a hole or deserted woodpecker's nest. The materials used are fine strips of bark and moss, with a lining of feathers, hair, and sometimes insect or spider cocoons. The eggs are usually five or six, white, with small dots of reddish brown or purplish.

The Brown Creeper is an uncommon winter resident, from October 14 to April 1, in most of Louisiana, although apparently absent or excessively rare in the immediate vicinity of the Gulf Coast. It has been reported from New Orleans and New Iberia, north to the Tensas River valley west of Tallulah, Monroe, Bienville Parish, and Shreveport.

Edward Butler notes it as occurring in West Feliciana Parish; and Ned Hollister saw it frequently in the woodlands east of the Tensas River in Madison Parish, west of Tallulah, from February 17 to March 6, 1904. George H. Lowery, Jr., recorded it near Monroe, December 21, 1930, March 25, 1931, and December 25, 1931. At this locality he states that it arrives about the middle of November, and departs between March 25 and April 1. He also gives it as a common winter visitor at Baton Rouge. H. H. Kopman reported a single bird at Shreveport, March 31, 1931. J. S. Campbell considers it a common winter resident from November 18 to March 31 in Bienville Parish. T. D. Burleigh collected a single example at New Orleans on November 30, 1936; and another there on October 28, 1937.

Family TROGLODYTIDAE

EASTERN HOUSE WREN

Troglodytes domesticus domesticus (Wilson)¹⁰⁷

The Eastern House Wren is a rare winter visitor in southeastern Louisiana.

The only records are the following specimens: two collected by R. W. Shufeldt at New Orleans, November 2, 1882, and now in the United States National Museum; a single bird taken at Hammond, November 21, 1875, and another at Pecan Grove, March 9, 1890, by George E. Beyer, both of which are in the museum of Tulane University at New Orleans; one at Chenier au Tigre, March 10, 1930, by A. M. Bailey; and another at the same place by the same collector, March 10, 1931.

The earliest scientific name of this species now proves to be *Sylvia domestica* Wilson, since this antedates *Troglodytes aedon* Vieillot. For further details see Oberholser, Ohio Journal of Science, Vol. XXXIII, No. 2, March 25, 1934, pp. 87-88.

¹⁰⁷*Troglodytes aedon aedon* of the 1931 A. O. U. Check-List.

OHIO HOUSE WREN

Troglodytes domesticus baldwini Oberholser

The Ohio House Wren is a rare winter visitor in central and southern Louisiana.

The writer has the following records of its occurrence in the State, all specimens examined by him. One bird was taken by Andrew Allison at New Orleans, February 24, 1898; a single individual was collected by Winston E. Nolan at Marrero near New Orleans on November 15, 1932; a male by Ambrose Daigre at Alexandria, October 5, 1933; two examples by T. D. Burleigh at New Orleans, April 14 and 23, 1936; one from Chenier au Tigre, December 12, 1925, by A. M. Bailey; one from Buras, February 1, 1896, by G. K. Cherrie; another from Chef Menteur, January 22, 1896, by the same collector; one each from Baton Rouge, November 12, 1937, and January 20, 1938, by George H. Lowery, Jr.

For the original description of this recently discovered subspecies, see Oberholser, Ohio Journal of Science, Vol. XXXIII, No. 2, March 25, 1934, p. 90.

WESTERN HOUSE WREN

Troglodytes domesticus parkmanii Audubon¹⁹⁸

The Western House Wren is a small bird about five inches in length, grayish brown above, and lighter below, with slender, rather short bill and moderately short tail.

In areas where it breeds it is found not only in the woodlands and thickets, but also in all cultivated areas and about dwellings, both in the country and in towns. It is fond of the society of man and is perfectly at home in one's dooryard or on one's porch. At times other than the breeding season it frequents much more commonly the forests, thickets, and swamps, where it skulks about among the undergrowth, and is sometimes difficult to observe. It seldom flies for any great distance, but slips about under cover of the foliage. During the breeding season it does,

¹⁹⁸ *Troglodytes aëdon parkmani* of the 1931 A. O. U. Check-List.

however, make longer flights in its foraging expeditions, although probably individuals do not travel for long distances away from the nest. It is seldom found in flocks, but most of the birds move singly or in pairs. Its voice is a rather unmusical chatter, but at times the bird is vocally active.

A large part of the food of this bird consists of insects, such as beetles, grasshoppers, bugs, caterpillars, crickets, and locusts; also spiders, snails, and millipeds form a part of its diet. Very little vegetable food is taken by this bird.

The Western House Wren makes use of almost any kind of a cavity as a nesting place. Any out of the way nook in a building or elsewhere may be appropriated, such as a bucket hanging up in a shed, an old hat, or a cavity in a pump. It is also fond of building in nest boxes put up for its use (or that of other birds), and wherever these are available it seems to prefer them to anything else. Into the place chosen for the nest this little bird brings a considerable quantity of sticks, pieces of wire netting, grass, weed-stalks, and various similar materials, and lines this cup for the eggs with hair, feathers, cocoons, and similar materials. The ordinarily five or six eggs are pale pinkish with numerous spots of reddish brown and lavender. About two weeks are consumed in the process of incubation, and both birds collaborate in this duty. From one to three broods are reared in a season, and it has been discovered that the birds often change partners for the second or third brood.

The Western House Wren is a fairly common winter resident, from the last week in September (September 21 in southern Mississippi), to May 5, throughout most of Louisiana; reported north to Tallulah, Mer Rouge, Monroe, and Bienville; west to Bienville and Jennings; south to Gueydan, Avery Island, Chenier au Tigre, Little Caillou Bayou near Bush Canal, Grand Isle, Pecan Grove, and Pilot Town; and east to Phoenix, New Orleans, Mandeville, Madisonville, and Bear Lake near Tallulah.

The writer has seen specimens of this bird from New Orleans, taken in January, 1933, and one female by Thomas D. Burleigh on April 12, 1937; Pecan Grove, March 9, 1890; and Alexandria, February —, 1933, and January —, 1933; also from five miles southwest of Bienville, collected by J. S. Campbell on April 15, 1933. Two House Wrens noted at Port Allen, December 14, 1917, by H. H. Kopman, were probably of this form, which is without much doubt the prevailing House Wren in Louisiana. The same is probably true of one individual seen at Lobdell by Andrew Allison, April 18, 1903, and one noted by C. W. Beckham at Bayou Sara, April 20, 1887. George E. Beyer reported it from Madisonville in 1891; and H. H. Kopman saw it at New Orleans, April 23, 1923; Pilot Town in the Mississippi River Delta, October 12 to 13, 1917; at Phoenix in Plaquemines Parish, October 23, 1917; and at Jennings, January 30 to 31, 1918. Ned Hollister saw a few at Mer Rouge, February 11 to 16, 1904; and a few days later noted the species near Bear Lake eight miles northwest of Tallulah. J. S. Campbell noticed it at Bienville on May 5, 1933. The writer observed a single individual on Little Caillou Bayou near Bush Canal in Terrebonne Parish, December 24, 1932; and E. R. Kalmbach collected one of these birds at a point south of Gueydan, April 11, 1926. Ambrose Daigre observed this wren on several dates between April 8 and 16, 1937, at Grand Isle.

EASTERN WINTER WREN

Nannus troglodytes hiemalis (Vieillot)¹⁰⁰

The Eastern Winter Wren is an uncommon winter resident, from October 8 to April 23, throughout most of Louisiana, excepting perhaps the Gulf Coast region; recorded north to East Carroll Parish, Monroe, Bienville, and Mansfield; west to Mansfield and New Iberia; south to New Iberia, Hester in Saint James Parish, Oneida near Convent, New Orleans, and Mandeville; and east to Mandeville, Bains, and Tallulah.

¹⁰⁰*Nannus hiemalis hiemalis* of the 1931 A. O. U. Check-List.

The writer has seen specimens of the Eastern Winter Wren in the museum of Tulane University at New Orleans, from Mandeville, October 19, 1875; and from Lewisburg, October 8, 1874; also specimens collected by A. H. Howell at Clarks, January 6, 1908; and at Lecompte, January 14, 1908. A. H. Howell found the species at Mansfield, January 23 to 25, 1908; and Ned Hollister noted it common in the swamps and woods of East Carroll Parish and Madison Parish, between February 17 and March 13, 1904. Robert Butler reported it at Bains, December 4 and 20, 1929, and on April 6, 1929. H. H. Kopman observed the species at Oneida near Convent, December 23, 1893, to January 1, 1894; and at Port Allen he saw two, December 14, 1917. George E. Beyer found it at New Orleans, April 7, 1894; and H. W. Pring observed it at Hester in Saint James Parish, April 23, 1902. George H. Lowery, Jr., considers it a common winter visitor in the Baton Rouge region. J. S. Campbell says that it is common in winter from October to April at Bienville.

The Eastern Winter Wren of the eastern United States is clearly but a subspecies of the European Wren, *Nannus troglodytes*, with which it intergrades through individual variation; and its name therefore should be *Nannus troglodytes hiemalis*.

BEWICK WREN

Thryomanes bewickii bewickii (Audubon)

The Bewick Wren is an uncommon and very local winter resident, from August 9 to March 9, throughout much of the State of Louisiana, excepting the Gulf Coast marsh areas; and it has been reported north to Oak Grove in West Carroll Parish, Monroe, Bienville, and Belcher; west to Foster, Natchitoches, and Saint Martinville; south to Saint Martinville, Saint James Parish, Oneida near Convent, New Orleans, Chef Menteur, and Oaklawn near Lacombe; and east to Slidell, Mandeville, Hackley, and Saint Francisville. It probably breeds, though rarely, in the northwestern corner of the State, but there seem to be no definite records.

John James Audubon, who first described the Bewick Wren, discovered this species near Saint Francisville, and there shot on October 19, 1821, the specimen that he used as his type, and from which his life-size painting was made.²⁰⁰

The writer has seen specimens of this species from Belcher, February 4, 1908; Foster, five miles east of Shreveport, January 31, 1908; and Natchitoches, January 21, 1908, all collected by A. H. Howell; and from Pride, East Baton Rouge Parish, December 18, 1937, by George H. Lowery, Jr. Howell obtained it also at Mansfield, January 23 to 25, 1903, and at Natchitoches, January 21, 1908. There is also a specimen in the museum of Tulane University at New Orleans, collected in Saint James Parish, February 5, 1894. A. H. Howell observed several at Slidell, October 28 to November 1, 1908; and two singing in the town of Hackley, February 20 to 24, 1912. H. H. Kopman saw two near Bayou Teche at Saint Martinville, August 9 to 12, 1917; a single one at Oaklawn, near Lacombe, February 24, 1918; several individuals at Oneida near Convent, December 23, 1893, to January 1, 1894; and noted the species at New Orleans, August 28, 1894, and January 6 and 8, 1894; also at Chef Menteur, December 23, 1917. J. S. Campbell regards it as a winter resident at Bienville; and he has seen it as late as March 5, 1934.

CAROLINA WREN

Thryothorus ludovicianus ludovicianus (Latham)

This bird is one of our larger wrens, being about six inches in length, bright reddish brown above, dull white below, with a conspicuous white streak over the eye. It has a very short tail, which is often held almost vertical.

It lives in almost all kinds of places, in woodlands, swamps, thickets, orchards, and about country or town dwellings. It is not shy, and is active not only during the summer but in the winter as well. It is one of the few

²⁰⁰*Birds of America*, folio edition, Vol. I, 1827, pl. XVIII; *Ornith. Biog.*, Vol. I, 1831, p. 96.

birds that sing all winter, and its song is a loud, ringing whistle that is very much in character like that of the Cardinal. In fact it is so loud and strong that one always has the impression that it must come from a bird almost twice the size of the Carolina Wren.

This is one of our most valuable birds from an economic standpoint. Most of its food consists of insects, such as caterpillars, moths, beetles of various kinds including the injurious cotton-boll weevil and cucumber beetle, crickets, grasshoppers, flies, and ants. A few spiders, lizards, tree frogs, and small snakes are also sometimes eaten. It subsists at some times of the year, particularly when other food is not so abundant, on vegetable matter, such as seeds of various weeds, sumac, pine, poison ivy, bayberry, and also acorns.

It places its nest in all kinds of nooks, such as cavities in trees, stumps, holes in banks, suitable places among the upturned roots of trees, in all kinds of crannies about buildings and similar places, sometimes on the ground or even at a considerable elevation above this. It uses such materials as grass, weed-stalks, bark, leaves, moss, and snake skins, and lines the nest with hair, feathers, rootlets, Spanish moss, and similar materials. The usually four or five eggs are white, with numerous spots of reddish brown and lilac. It takes almost two weeks to hatch the young; and this duty is performed ordinarily by the female.

The Carolina Wren is a common permanent resident in most of Louisiana; reported north to Lake Providence, Oak Grove in West Carroll Parish, Mer Rouge, Holly Ridge, Rayville, Crew Lake, Monroe, Bienville, and Belcher; west to Caddo Lake, Foster, Crichton, Mansfield, Logansport, Natchitoches, Hagewood, Sandel, Anacoco, De Ridder, Newellton, Lake Charles, Sulphur, Toomey, and Black Bayou in Cameron Parish; south to Cameron Farm 14 miles south of Vinton, north shore of White Lake, Shell Island on Mallett Bay 15 miles southwest of Gueydan, lower Vermilion River, Rainey Wild Life Sanctuary, Chenier au Tigre, Avery Island, Baldwin, Avoca Island, Houma, Little Caillou Bayou

near Bush Canal, Grand Isle, Pointe a la Hache, and Buras; and east to Junior, Belair, New Orleans, Lake Catherine, Slidell, Honey Island in Pearl River, Mandeville, Madisonville, Covington, Hackley, Simmesport, Frogmore, Tallulah, and Bear Lake near Tallulah. This species breeds in the State from March to July, and there are records of eggs from March 16 to June 7.

The writer has examined specimens of this bird from the following localities, and all these birds are referable to the typical race, *Thryothorus ludovicianus ludovicianus*: Madisonville, July 23, 1888; Bedico Swamp, August 20, 1890, George E. Beyer; Mandeville, no date; New Orleans, May 17, 1890, George E. Beyer; Jefferson Parish, December 23, 1895, H. H. Kopman; Plaquemines Parish, November 2, 1862; Pointe a la Hache, April 2, 1890, George E. Beyer, all in the museum of Tulane University at New Orleans; Belair, March 30 and 31, 1904, Ned Hollister; Lecompte, February 10 to 11, 1908; Clarks, January 6 and 7, 1908, A. H. Howell; Natchitoches, January 17, 18, and 21, 1908, A. H. Howell; Foster, five miles east of Shreveport, January 30, 1908, A. H. Howell; Belcher, February 4, 6, and 7, 1908, A. H. Howell; and New Orleans, December 14, 1935, and January 14, 1936, T. D. Burleigh—all of these in the Biological Survey collection in the United States National Museum; and Avery Island, May 9 and 11, 1930, E. G. Wright. Also several specimens were collected by R. W. Shufeldt at New Orleans, November 2 and 22, and December 14, 1882; and others by Ambrose Daigre at Marrero, May 4, 1937; by A. M. Bailey at Chenier au Tigre on December 10 and 15, 1925; by G. K. Cherrie at Buras, January 29 and 30, February 1, 4, and 6, 1896; and by T. D. Burleigh at Alexandria, November 9, 1936.

Eggs of the Carolina Wren in the museum of Tulane University were taken in Jefferson Parish, April 8 and 30, 1892; and others in the United States National Museum were obtained at Grand Coteau, June 3 and 6, 1887.

Vernon Bailey found this species very common and breeding at Mer Rouge, June 2 to 7, 1892; and A. H. Howell

noted a few at Logansport, August 25 to 27, 1906. E. R. Kalmbach observed this wren on the north shore of White Lake, May 5 to August 13, 1925; and on Shell Island, a wooded peninsula projecting into Mallett Bay, 15 miles southwest of Gueydan, July 7 to 8, 1925. A. H. Howell reported this species common at Slidell, October 28 to November 1, 1908; at Covington, November 2 to 3, 1908; and at Hackley, February 20 to 24, 1912. The writer noted the species several times along Bayou Dupont in Jefferson Parish, June 10, 1933; along the Dupres Canal and Little Barataria Bayou on the same date. He saw it at Avery Island, December 28, 1932, and June 21, 1933; at Avoca Island, January 27 to 28, 1932; at Houma, June 22 to 23, 1933; on Little Caillou Bayou near Bush Canal, December 24, 1932. It was seen by him also on the lower Vermilion River, January 22, 1928; on the Cameron Ranch 14 miles south of Vinton, June 20, 1933; at Toomey, Sulphur, and Lake Charles, June 20, 1933; at Newton, De Ridder, Anacoco, Sandel, and Hagewood, June 19, 1933; and at Crichton and Caddo Lake, June 18, 1933. He found it at Crew Lake, Rayville, and Holly Ridge, June 17, 1933; at Frogmore, June 16, 1933; Tallulah, June 17, 1933; and at Honey Island in Pearl River, June 27, 1933. H. H. Kopman reported it common at Junior, August 4 to 5, 1917; and at Simmesport, August 31 to September 2, 1917. On the Singer Preserve along the Tensas River in Madison Parish 13 miles southwest of Tallulah, the writer found this species unusually abundant in the heavy bottomland forests, June 16 to 17, 1933. J. S. Campbell regards it a common permanent resident at Bienville and elsewhere in Bienville Parish.

MASSACHUSETTS MARSH WREN

Telmatodytes palustris dissaëptus (Bangs)

This marsh wren is of casual or accidental occurrence in winter in Louisiana.

There is but a single definite record, a male taken by A. M. Bailey at Chenier au Tigre, on January 5, 1934.

MARIAN MARSH WREN*Telmatodytes palustris marianae* (Scott)

The Marian Marsh Wren is a Florida bird, which apparently is the resident Long-billed Marsh Wren of the southeastern corner of Louisiana, north to The Rigolets and Mandeville; west to New Orleans; and south to Chef Menteur, Lake Catherine, Lake Borgne, and possibly to Saint Bernard Parish.

An adult female was taken by Gustave Kohn at Mandeville on December 10, 1877; and three examples by T. D. Burleigh at New Orleans, April 13, 1936, also others on April 19, 1935, and June 1, 1936. H. H. Kopman reported it in 1911 as a summer resident and undoubtedly nesting at Chef Menteur, The Rigolets, and Lake Catherine. Other birds were taken by Henry W. Henshaw at The Rigolets, March 20, 1870, and Lake Borgne, March 5 and 21, 1871, but not examined in the present connection.

LOUISIANA MARSH WREN*Telmatodytes palustris thryophilus* Oberholser

This is a small bird about five inches long, brownish above, with some black and white markings, a whitish line above the eye and partly white under parts, except for the sides, and sometimes the breast, which are more brownish.

It lives in the marshes and in the high grass of the coast meadows, among the reeds, rushes, grasses, and similar kinds of vegetation. It is ordinarily much more common than one would be led to suppose, because by reason of the places where it lives it is most of the time concealed in the grass. Occasionally it may be seen perched on a tall weed, spire of grass, or even a bush, and at times it flies up into the air to deliver its flight song, but at other times, since it does not, as a rule, make long flights but skulks about among the grass and reeds, it is often difficult to see. Its song is somewhat similar to that of the House Wren, but it is less musical and might be termed sputtering. Usually this is delivered when the bird is perching.

This bird lives on various kinds of insects, such as grasshoppers, ants, caterpillars, moths, flies, bugs, mosquitoes, and beetles. It eats also small crustaceans, snails, and other little water animals that it finds in its habitat.

The nest is a rather interesting structure. It is about the size and shape of a cocoanut, with an entrance in the side, and is attached to the reeds or grass of the marshes or swamps. It is composed of various kinds of grass and marsh vegetation, such as rushes and reeds, with occasionally some mud; and it is abundantly lined with the down of cattail, various kinds of feathers, and similar soft materials. It thus provides excellent protection for the eggs and young. The eggs are usually five or six, of a pale or dark brown, so heavily spotted that they sometimes appear almost uniformly chocolate brown. It takes about 12 days for the eggs to hatch, and the young remain, of course, in the nest until they are able to fly. Meanwhile the male builds one or more other nests, which are not so well or carefully constructed, and with little or no lining. These are used as roosting places and not, as might be supposed, for second broods.

The Louisiana Marsh Wren is a common permanent resident on the coastal marshes of southern Louisiana; recorded from Cameron, Grand Chenier, Chenier au Tigre, Marsh Island, Vermilion Bay, Isle Derniere, Grand Isle, Manila on Barataria Bay, Ronquille Bay, Southwest Pass in the Mississippi River Delta, Quarantine (Cubit's Gap) in the Mississippi River Delta, Pass a Loutre, Pilot Town, and Main Pass in the Mississippi River Delta, Bird Island southwest of Breton Island, Hog Island, and Breton Island; north to Baton Rouge, the mouth of Grand Caillou Bayou, Dulac on Grand Caillou Bayou in Terrebonne Parish, Boudreaux Lake in Terrebonne Parish, Avoca Island, Kaplan (12 miles southeast of), Gueydan, and Toomey.

Specimens of this subspecies were examined from Pilot Town, collected, October 24, 1928; Chenier au Tigre, May 23, 25, and 31, 1935; and January 5, 1934, by A. M. Bailey; Hog Island, April 4, 1919, by F. C. Lincoln; Ged,

OHIO HOUSE WREN

Troglodytes domesticus baldwini Oberholser

The Ohio House Wren is a rare winter visitor in central and southern Louisiana.

The writer has the following records of its occurrence in the State, all specimens examined by him. One bird was taken by Andrew Allison at New Orleans, February 24, 1898; a single individual was collected by Winston E. Nolan at Marrero near New Orleans on November 15, 1932; a male by Ambrose Daigre at Alexandria, October 5, 1933; two examples by T. D. Burleigh at New Orleans, April 14 and 23, 1936; one from Chenier au Tigre, December 12, 1925, by A. M. Bailey; one from Buras, February 1, 1896, by G. K. Cherrie; another from Chef Menteur, January 22, 1896, by the same collector; one each from Baton Rouge, November 12, 1937, and January 20, 1938, by George H. Lowery, Jr.

For the original description of this recently discovered subspecies, see Oberholser, Ohio Journal of Science, Vol. XXXIII, No. 2, March 25, 1934, p. 90.

WESTERN HOUSE WREN

Troglodytes domesticus parkmanii Audubon¹⁹⁸

The Western House Wren is a small bird about five inches in length, grayish brown above, and lighter below, with slender, rather short bill and moderately short tail.

In areas where it breeds it is found not only in the woodlands and thickets, but also in all cultivated areas and about dwellings, both in the country and in towns. It is fond of the society of man and is perfectly at home in one's dooryard or on one's porch. At times other than the breeding season it frequents much more commonly the forests, thickets, and swamps, where it skulks about among the undergrowth, and is sometimes difficult to observe. It seldom flies for any great distance, but slips about under cover of the foliage. During the breeding season it does,

¹⁹⁸ *Troglodytes aedon parkmani* of the 1931 A. O. U. Check-List.

Since this race is not recognizable in the field, the only certain records are from specimens; and the writer has examined skins from the following localities: Chateau Canard (Joseph Leiter's place) on Main Pass in the Mississippi River Delta near Pilot Town, October 24, 1928, collected by A. M. Bailey; Chenier au Tigre, January 2, 1934, also by A. M. Bailey; Mandeville, December 9, 1877, by Gustave Kohn; Madisonville, January 11, 1889, taken by George E. Beyer; and Bienville, April 16, 1932, obtained by J. S. Campbell.

In most recent treatments of the marsh wrens, the breeding bird from the upper Mississippi Valley, that is, from Illinois and Iowa, northwest to North Dakota, has been considered the same as the bird nesting on the coast of Massachusetts, *Telmatodytes palustris dissaëptus* (Bangs). Examination of further material, however, indicates that the Mississippi Valley bird is not the same as the bird from New England, being paler and more ochraceous, rather than rufescent, and it, therefore, should be separated subspecifically. Its name, of course, is *Telmatodytes palustris iliacus* Ridgway,²⁰¹ described from Wheatland, Knox County, Indiana. It winters south to Texas, Louisiana, and Florida.

SHORT-BILLED MARSH WREN

Cistothorus stellaris (Naumann)

Of somewhat smaller size than the Louisiana Marsh Wren, chiefly because of its shorter bill, the present bird is otherwise similar, except that the upper surface is more uniformly streaked with white.

It lives in similar places, but is often found on prairies, meadows, or fields, where the weeds or grasses are high, sometimes in rather dry situations. Its song is decidedly different from that of the Louisiana Marsh Wren, and not particularly musical.

Its food consists of insects such as grasshoppers, caterpillars, crickets, moths, various kinds of beetles, bugs, ants, and some spiders.

²⁰¹Proc. Biol. Soc. Wash., Vol. XVI, September 30, 1903, p. 110.

The nest is usually in the drier parts of a marsh, or in damp meadows, and is similar in character to the nest of the Louisiana Marsh Wren, a round or roundish structure of grasses, sedges, or weeds, and attached to the grass above the ground, though often well concealed by the surrounding vegetation. The eggs are usually four or five, pure white, unmarked.

The Short-billed Marsh Wren is an uncommon winter resident, from October 10 to May 12, in the Gulf Coast region of southern Louisiana; from Pilot Town, Grand Isle, Bayou Ferman in Vermilion Parish, New Iberia, Chenier au Tigre, Rainey Wild Life Sanctuary, and Cameron; north to near Gueydan, Lobdell, Oneida near Convent, Marrero, New Orleans, and Chef Menteur; and a rare transient in April in the northern part of the State, reported from only Bienville.

The writer has seen specimens of this species from Chef Menteur, April 7, 1876, in the museum of Tulane University; from Grand Isle, March 12, 1933, in the museum of the Louisiana Department of Conservation at New Orleans; from Marrero, taken, November 10, 1932, by Winston E. Nolan; and from New Orleans, January 13, 1936, by T. D. Burleigh. Andrew Allison also collected a specimen near Lobdell in West Baton Rouge Parish, May 12, 1903, which he forwarded to the United States National Museum; and R. W. Shufeldt obtained specimens at New Orleans, December 1, 2, and 12, 1882. A. M. Bailey secured specimens during the last week of October, 1928, near Pilot Town; E. S. Hopkins, at Grand Isle, April 4, 1925; and A. M. Bailey, on Bayou Ferman in Vermilion Parish, November 25, 1916, and at Chenier au Tigre, December 10, 1925. E. R. Kalmbach took one on March 24, 1926, east of Gueydan; and W. L. McAtee saw a single individual of this species at Cameron, December 4, 1910. Andrew Allison reported it from Lobdell, May 12, 1903; H. H. Kopman from New Orleans, October 15, 1903, and from Oneida near Convent, December 23, 1893, to January 1, 1894; and Charles W. Townsend from the Rainey Wild Life Sanctuary, December 4 and 6,

1925. J. S. Campbell observed it at Bienville on April 20, 1933, and April 17, 1934; G. K. Cherrie collected it at Buras on February 3, 1896; and George H. Lowery, Jr., at Grand Isle on April 14, 1937.

Family MIMIDAE

EASTERN MOCKINGBIRD

Mimus polyglottos polyglottos (Linnaeus)

The Eastern Mockingbird is brownish gray above, white below, with wings and tail blackish, the former with a white patch and the latter with large patches of white on the outer feathers. It is readily identified as the Mockingbird, the only other birds with which it might be confused being the shrikes, but it is readily separated from them by its longer tail and lack of black markings about the head. The flight, too, is much more jerky and not so swift as that of the shrikes.

It lives in almost all kinds of country, although it is not partial to the very heavy forests. Thickets, brushy pastures, and all kinds of cultivated areas, including the streets and parks of towns and cities are suited to its needs, and it is one of the commonest birds in many of the cities. It is not ordinarily a gregarious bird, but is distributed all over suitable parts of the country, usually singly or in pairs. It is one of the best known and justly famous birds of the southland, and is found as far north as southern Canada.

The Mockingbird has so great a reputation for imitating the notes, calls, and songs of other birds that it often is not sufficiently credited with original compositions. It has the habit of stringing together a long series of imitations of other birds' calls and of singing for considerable periods almost unceasingly. In between the imitations that it gives it improvises notes and songs of its own, some of which are of considerable interest. It is one of the relatively few birds that sing regularly and extensively at night. It is fond of singing after dark and sometimes continues the whole night through. In addition to its unusual

song it also is a remarkable bird in many respects. It has a dominating disposition, and drives away from feeding places and elsewhere the smaller birds and even some of the larger birds like the Blue Jay and Brown Thrasher.

The diet of this bird extends over a wide range of food. It lives largely on various kinds of wild berries and seeds, such as those of the black gum, inkberry, poison ivy, blueberry, blackberry, sumac, elderberry, and others. Occasionally it does some damage to cultivated fruits such as strawberries, apples, grapes, and figs. It also eats the seeds of small plants such as goldenrod. The animal part of its food consists chiefly of insects, such as curculios and other beetles, caterpillars, grasshoppers, bugs, flies, and ants, and among the injurious insects that it consumes are the cotton-boll weevil and the cotton-boll worm. It is among the birds easy to attract to a feeding station, because it is very fond of suet, bread crumbs, nuts, and raisins.

The Mockingbird's courtship performance is interesting. It consists in part of stretching the wings up and thus showing the white areas in the wing; and the curious dance sometimes performed by a pair is a very entertaining and unusual sight. The two birds face each other, holding up their heads and tails, and step from side to side, or around each other.

The nest is placed in any sort of bush or low tree, in thickets or in cultivated areas, or in shrubbery about human habitations. It is normally not very high from the ground, but sometimes as much as 50 feet. It is a rather bulky structure made up of weed-stalks, moss, leaves, strips of bark, grass, twigs, string, rootlets, or any similar materials, and lined with finer grasses, horsehair, rootlets, cotton, or other similar substances. The eggs are usually three to five, light buff or greenish, and more or less heavily marked with spots and blotches of reddish brown or purplish. It takes about two weeks to hatch the young, and usually two broods at least are reared in a season. The young ordinarily remain in the nest until they are nearly

able to fly, but they have the tendency shared by some other birds to leave the nest too soon, and are thus subject to the attacks of enemies, such as cats.

The Eastern Mockingbird is a common permanent resident throughout Louisiana; reported north to Lake Providence, Oak Grove in West Carroll Parish, Mer Rouge, Monroe, Choudrant, Bienville, Belcher, and Caddo Lake; west to Cross Lake, Curtis, Mansfield, Logansport, Many, Florian, Sandel, Anacoco, Leesville, Pickering, Rosepine, De Ridder, Longville, Gillis, Newton, Lake Charles, Sulphur, Vinton, Toomey, and Black Bayou in Cameron Parish; south to Calcasieu Pass, Cameron, Calcasieu Lake, mouth of Mergementau River, Grand Chenier, Rainey Wild Life Sanctuary, Chenier au Tigre, Marsh Island, Little Wax Bayou, Avoca Island, Grand Isle, Buras, and Pass a Loutre in the Mississippi River Delta; and east to Main Pass in the Mississippi River Delta, Deer Range Plantation in Plaquemines Parish, Diamond, Junior, Belair, New Orleans, Slidell, Pearl River, Mandeville, Madisonville, Clinton, Saint Francisville, Simmesport, Ferriday, Lake Saint John, Waterproof, Saint Joseph, Quimby, Tallulah, and East Carroll Parish. It breeds in Louisiana from March to August; and there are records of eggs from March 28 to July 29.

All the specimens examined from Louisiana belong to the eastern race, and the writer has seen birds from Deer Range Plantation in Plaquemines Parish, no date; Morgan City, October 28, 1925, Mrs. R. D. Svihla; east of Gueydan, March 24, 1925, E. R. Kalmbach; Alexandria, January 9, 1908, A. H. Howell; Lecompte, January 13, 1908, A. H. Howell; Mansfield, January 23, 1908, A. H. Howell; Belcher, February 6, 1908, A. H. Howell; Chenier au Tigre, January 1 and 5, 1934, A. M. Bailey; five specimens taken at Grand Isle, October 5, 1937, and three at New Orleans, October 6, 1937, all by T. D. Burleigh. Vernon Bailey found it very common, June 2 to 7, 1892, at Mer Rouge; and Ned Hollister, abundant in East Carroll Parish, March 6 to 13, 1904. The writer noted it at Tallulah, common on June 17, 1933, and at Choudrant on the same day; Quimby, Saint

Joseph, Waterproof, Lake Saint John, and Ferriday, June 16, 1933; Slidell and Pearl River, June 27, 1933; Main Pass and Pass a Loutre in the Mississippi River Delta, June 7, 1933; near Buras, December 16, 1932; Little Wax Bayou, January 28, 1932; Grand Chenier, December 31, 1932; and at Calcasieu Lake, December 31, 1932. E. R. Kalmbach noted it at the mouth of the Mermentau River between April 26 and September 28, 1925; and W. L. McAtee found it common at Cameron, November 28 to December 6, 1910. The writer observed it on Black Bayou in Cameron Parish, January 27, 1928; at Toomey, where it was common, June 20, 1933; and at Vinton, where it was still more numerous, on the same day; at Sulphur and Lake Charles, also on the same date. He noticed it at Newton, Gillis, Longville, De Ridder, Rosepine, Pickering, Leesville, Anacoco, Sandel, Florien, and Many, June 19, 1933; and at Curtis, Taylortown, Cross Lake, and Caddo Lake, June 18, 1933. A. H. Howell found it numerous at Logansport between August 25 and 27, 1906, and obtained specimens on August 25, 1906. At Bienville and elsewhere in Bienville Parish J. S. Campbell considers this bird an abundant permanent resident. Ambrose Daire observed it frequently at Grand Isle from April 2 to 23, 1937; and it was taken at New Orleans, February 4, 1917, by A. M. Bailey; at Buras, February 6, 1896; and at Chef Menteur, January 22, 1896, by G. K. Cherrie. A nest of this species was collected by G. Würdemann at Calcasieu Pass, November 6, 1858, and sent by him to the Smithsonian Institution. There are eggs in the United States National Museum from Grand Coteau, collected, June 4 and 6, 1887.

CATBIRD

Dumetella carolinensis (Linnaeus)

This bird is so named because of the resemblance of some of its calls to the 'mew' of a cat. It is a slate-colored bird relieved only by the chestnut patch under the base of the tail. It is rather smaller than the Mockingbird, being about nine inches in length.

It is fond of thickets, the edges of woodlands, undergrowth, and also of cultivated areas, even in the towns. It is a bird of the bushes and trees, and usually does not fly far at any one time, except when migrating. It is found as far north as southern Canada, and in winter as far south as Panama, since it migrates southward from the more northern parts of its range. It is not often seen in any considerable flocks, but it is a common bird in many parts of the country, except in the western United States. It is easy to attract the Catbird, for it has more or less curiosity regarding not only man but other animals. Its song is exceedingly varied, and it is an excellent mimic, although not so good as the Mockingbird. Its own song, however, is varied and pleasing, and like that of the Mockingbird is often heard at night.

The food of the Catbird consists partly of animal and partly of vegetable food. The animal portion is made up of insects, such as grasshoppers, caterpillars, various kinds of beetles, ants, bugs, and other insects, together with some spiders. The vegetable part of its food comprises wild fruits, such as elderberries, dogwood, poison ivy, and smilax, together with a certain amount of cultivated fruits such as strawberries and raspberries. It does, however, not seriously damage the garden.

This bird builds its nest almost anywhere in a thicket, either in a cultivated area or other place, often close to dwellings in the country or in town, often in swampy locations. The nest is commonly in a low tree, bush, or vine, not very high from the ground, and fairly well concealed. It is a rather bulky structure, apparently roughly made of twigs, grass, weed-stalks, leaves, bits of paper, and similar material; and lined with rootlets and strips of bark. The eggs are dark bluish green, unmarked; and ordinarily take a little less than two weeks to hatch. The young remain in the nest for some time. The parents are exceedingly solicitous for the young and will drive away other birds that venture into the neighborhood of the nest, also sometimes they will attack even a human being.

The Catbird is a permanent resident in most of Louisiana excepting the Gulf Coast region, rare in summer, except locally in the northern part of the State, and rare also in winter, but more numerous during the migrations. It has been reported north to Mer Rouge, Monroe, Bienville Parish, and Caddo Parish; west to Shreveport, Frierson, Mansfield, Alexandria, and Thibodaux; south to Thibodaux and New Orleans; and east to Pearl River, Mandeville, Hammond, Bayou Sara, and Tallulah. It is a rare winter resident, from October to May 6, in the Gulf Coast region of southern Louisiana; south to Mermentau, Chenier au Tigre, Avery Island, Baldwin, Grand Isle, the Mississippi River between Magnolia and Myrtle Grove, and Port Eads. It breeds in May.

Specimens have been examined from College Town Swamp two and a half miles southeast of the Louisiana State University at Baton Rouge in the autumn of 1932, collected by George H. Lowery, Jr.; Marrero, February 8, 1933; Southport in Jefferson Parish, January 13, 1900, by Andrew Allison; Avery Island, April 2, 1894, George E. Beyer; Grand Isle, April 19, 1933, and May 6, 1933. Birds of this species struck the Southwest Reef Lighthouse at the mouth of Atchafalaya Bay, April 21, 1907, and October 27, 1908; and one also struck the South Pass Lightship at Port Eads, April 9, 1902.

Vernon Bailey found this species common at Mer Rouge, June 2 to 7, 1892; and E. R. Kalmbach saw it at Tallulah, June 13 to July 13, 1924. George H. Lowery, Jr., reports it a common summer resident at Monroe, where he observed it also on December 27, 1934. J. S. Campbell considers it a common summer resident in Bienville Parish, where it breeds in May. It was found nesting near Frierson in De Soto Parish by J. K. Strecker; and seen by him in summer in Caddo Parish. H. H. Kopman reported it on April 16 and 22, 1929, at Shreveport, and notes that it breeds in that locality. A. H. Howell collected specimens at Mansfield, April 27 and 29, 1907. Ambrose Daigre reports it nesting at Alexandria; and E. R. Kalmbach saw several individuals

at Thibodaux, May 25, 1919. A. K. Fisher collected one at New Orleans, May 21, 1886; the writer observed one on Honey Island in Pearl River, June 27, 1933; H. H. Kopman reported the species from Hammond, April 26, 1918; C. A. Bibbins reported it as wintering at Mermentau, though not common; and A. M. Bailey noted it at Chenier au Tigre between December 8 and 18, 1925. Mrs. G. L. Baldwin observed it at Baldwin, February 26 and April 15, 1910; and the writer noted a single individual along the Mississippi River between Magnolia and Myrtle Grove, December 20, 1932. E. S. Hopkins reported the species very common at Grand Isle from April 20 to 28, 1925.

EASTERN BROWN THRASHER

Toxostoma rufa rufa (Linnaeus)²⁰²

The Brown Thrasher, frequently called the 'brown thrush', or 'French mockingbird', is a well known inhabitant of the eastern United States and southeastern Canada. Like the Catbird it wanders for the winter from the northernmost part of its summer range, when it becomes more abundant in the southern states than in summer. It is a larger bird than the Catbird, being 11 or 12 inches in length, of a bright reddish brown above, white below, with conspicuous streaks or spots of brown or blackish. Its long tail and reddish color will easily distinguish it almost anywhere, even though it looks somewhat in color like the Wood Thrush.

It is fond of all kinds of thickets, open woodlands, brushy pastures, shrubbery about human dwellings, and various kinds of cultivated areas, and even the streets and parks of the town. Its favorite place is a thicket, where, under favorable circumstances, it lives and often scratches on the ground among the leaves for its food. It does not usually make prolonged flights, but flits from bush to bush, and from thicket to thicket, usually flirting its long fan-like tail. Rarely does it assemble into flocks of any size, but is ordinarily seen singly or in pairs.

²⁰²*Toxostoma rufum* of the 1931 A. O. U. Check-List.

It is one of the finest songsters of our countryside, and has a much richer and more melodious song than the Catbird. It likewise is a good mimic, and it, like the Mockingbird, strings together a number of imitations with improvisations of its own.

A considerable part of the food of this bird consists of acorns, various kinds of wild fruit, such as pokeberries, huckleberries, and berries of the Virginia creeper, holly, and hackberry. Domestic fruits also form a part of its diet whenever available, these comprising cherries, grapes, strawberries, and similar kinds; but not enough of such is taken to weigh greatly against the value of this bird as an ally of the farmer. A considerable part of its food is made up of insects of such destructive species as the cotton-boll weevil, cucumber beetle, and other beetles, caterpillars, and grasshoppers.

The nest is placed commonly in thickets, bushes, or low trees, sometimes in brush heaps, vines, or even in fence corners, usually not far from the ground. It is a very bulky structure, though normally fairly strong, made of weed-stalks, sticks, strips of bark, leaves, and roots, with a lining usually of rootlets. The three to five eggs are white or very light green, very thickly speckled with reddish brown. The birds take about 13 days to incubate the eggs, and apparently both the male and female have a part in this duty. The parents are very much attached to the nest, the eggs, and young, and the brooding bird will sit on the nest until almost touched. The bird, furthermore, is very active and vicious in protecting its home. At times when a person approaches the nest, one or both of the birds will ordinarily dart at the individual, sometimes striking the face or head, and even the hands of the person intruding. With such care the young should be successful in their start in life, and they remain in the nest until they are able to take care of themselves, at least in part. Sometimes, like many other birds, they leave the nest too soon and fall victims to enemies, because of their inability to defend themselves.

The Eastern Brown Thrasher is a permanent resident, uncommon during summer and winter, more frequent during the migrations, in most parts of Louisiana excepting the Gulf Coast region; recorded north to Lake Providence, Oak Grove in West Carroll Parish, Monroe, Bienville, Foster (five miles east of Shreveport), and Belcher; west to Shreveport, Mansfield, Natchitoches, and Lake Charles; south to Lake Charles, New Iberia, Avery Island, Rainey Wild Life Sanctuary, Baldwin, Thibodaux, Houma, and New Orleans; and east to Mandeville, Madisonville, Amite, Hackley, Clinton, Saint Francisville, Bains, Valverda, Newellton, Thomastown, Tallulah, and East Carroll Parish. The Brown Thrasher is also a winter resident, from October to May 11, in the Gulf Coast region, south to the lower Vermilion River, Chenier au Tigre, Southwest Reef Lighthouse at the mouth of Atchafalaya Bay, and Plaquemines Parish. It breeds during May and June; and there are records of eggs from May 18 to June 22.

Specimens of the eastern race of this species, which is the breeding Brown Thrasher of Louisiana, have been examined from Avery Island, January 20, 1894; Grand Isle, April 2, 1931; Plaquemines Parish, November, 1862; Jefferson Parish, April 8, 1898, and February 26, 1931; Marrero, February 19, 1932; New Orleans, February 12, 1895, November 26, 1932, January 1, 1933, October 3, 1936, March 29, 1937, December 6, 1937; and two on November 4, 1932; Chef Menteur, January 22, 1896; Madisonville, May 14, 1888; Clinton, January 9, 1888; Clarks, January 6, 1908; Belcher, February 7, 1908; Chenier au Tigre, January 2, 1934; Monroe, November 27, 1937; and Bogalusa, August 24, 1936.

H. H. Kopman reported it from Shreveport, April 19, 1929, in which locality it breeds. A. H. Howell saw it at Mansfield, April 26 to May 3, 1907; and at Natchitoches, January 16 to 21, 1908. The writer observed it at Lake Charles, June 19, 1933; H. H. Kopman says that it is resident at New Iberia; and George H. Lowery, Jr., a common resident at Baton Rouge. It was reported from Baldwin,

April 21, 1910, by Mrs. G. L. Baldwin; and from Thibodaux, May 25, 1919, by E. R. Kalmbach. The writer saw one bird at Houma, June 23, 1933; and George E. Beyer reported its breeding in 1891 at Madisonville and Clinton. H. H. Kopman noted it at Amite, March 27, 1918; as breeding at Valverde in June, 1915; and as seen at Thomastown in Madison Parish, July 13 to 28, 1896. Ned Hollister found it common in East Carroll, West Carroll, Madison, and Morehouse parishes, February 11 to March 20, 1904; and the writer saw it at Tallulah and Newellton, June 16, 1933. J. S. Campbell considers it common at Bienville where he discovered 12 nests with eggs or young during May and June, 1933. A. H. Howell met with it fairly commonly at Hackley, February 20 to 24, 1912; Edward Butler reported it breeding at Saint Francisville in 1915, and at Bains in 1916. The writer observed the species along the lower Vermilion River, January 22, 1928. Individuals presumably of this subspecies struck the Southwest Reef Lighthouse at the entrance to Atchafalaya Bay, April 21, 1907, and October 27, 1908, and were reported by S. Jones.

Attention should perhaps again be called to the fact that the generic name *Toxostoma* is not of neuter but of feminine gender, and that consequently the name of the Brown Thrasher should be as above given, *Toxostoma rufa rufa*.

WESTERN BROWN THRASHER

Toxostoma rufa longicauda (Baird)

The Western Brown Thrasher is a rare winter resident, from September 21 to February 20, in northern and southern Louisiana. Since it is not distinguishable in the field from the eastern subspecies, the only records useful in the present connection are the specimens actually examined.

The writer has seen specimens from Belcher, February 7, 1908, collected by A. H. Howell; Lecompte, January 11, 13, and 14, 1908, A. H. Howell, two on the last date; New Orleans, December 26, 1935, February 20, 1937, and September 21, 1936, by T. D. Burleigh; Baton Rouge, January 15, 1937, by T. D. Burleigh; Chenier au Tigre, January

1925. J. S. Campbell observed it at Bienville on April 20, 1933, and April 17, 1934; G. K. Cherrie collected it at Buras on February 3, 1896; and George H. Lowery, Jr., at Grand Isle on April 14, 1937.

Family MIMIDAE

EASTERN MOCKINGBIRD

Mimus polyglottos polyglottos (Linnaeus)

The Eastern Mockingbird is brownish gray above, white below, with wings and tail blackish, the former with a white patch and the latter with large patches of white on the outer feathers. It is readily identified as the Mockingbird, the only other birds with which it might be confused being the shrikes, but it is readily separated from them by its longer tail and lack of black markings about the head. The flight, too, is much more jerky and not so swift as that of the shrikes.

It lives in almost all kinds of country, although it is not partial to the very heavy forests. Thickets, brushy pastures, and all kinds of cultivated areas, including the streets and parks of towns and cities are suited to its needs, and it is one of the commonest birds in many of the cities. It is not ordinarily a gregarious bird, but is distributed all over suitable parts of the country, usually singly or in pairs. It is one of the best known and justly famous birds of the southland, and is found as far north as southern Canada.

The Mockingbird has so great a reputation for imitating the notes, calls, and songs of other birds that it often is not sufficiently credited with original compositions. It has the habit of stringing together a long series of imitations of other birds' calls and of singing for considerable periods almost unceasingly. In between the imitations that it gives it improvises notes and songs of its own, some of which are of considerable interest. It is one of the relatively few birds that sing regularly and extensively at night. It is fond of singing after dark and sometimes continues the whole night through. In addition to its unusual

and black streaked throat, and tawny lower surface, distinguish it at a glance from most of the birds in our woods and fields.

It is not particularly fond of the deep forests, but in almost every other kind of situation, wild and cultivated, it is well known. Its flight is fairly swift, strong, and well sustained, and the bird is capable of traveling long distances without rest. One of the interesting features of the Robin's life history is its gathering into great flocks for the purpose of roosting. These roosts are occupied in winter, autumn, also to some extent in the spring; and in some instances contain thousands of birds. They are usually in trees or bushes, but sometimes, particularly in the south, the tall grasses, reeds, or rushes in the marshes form a satisfactory place. This is frequently a source of danger to the birds because they have been hunted by flashlight and killed in great numbers by hunters who knock them down with sticks after they had become bewildered by the unaccustomed light at night.

The Robin has a very mellow and pleasing song, of relatively few notes that have sometimes been represented by the syllables 'cheer up', or 'cheerily'. One of its call notes is a sharp 'chirp'.

The diet of this bird is made up of a wide variety of animal and vegetable food. It includes such wild fruit as huckleberries, persimmons, dogwood, pokeberries, mulberries, cherries, and in fact almost all similar kinds. In addition it frequently takes considerable cultivated fruit, such as cherries, grapes, and berries of various kinds. Sometimes seeds of different sorts also form a part of its food. On the other hand the bird destroys a great many injurious insects, such as cutworms, army worms, caterpillars of various kinds including the gypsy moth and tent caterpillar, tree hoppers, ants, codling moths, and many others. The Robin is very fond of earthworms and is very successful in pulling them out of the ground. Other items of food are snails, thousand-legs, and even occasionally small snakes and fishes.

The Robin breeds in almost any place, although it is less fond of the deep forests for this purpose. It often builds its nest in trees in the yards of cities. The nest is ordinarily placed in a tree or bush, often in some nook about a building, and in all sorts of out of the way places, such as stumps, posts, fences, even in hollow trees, and occasionally on the ground. It is ordinarily not over 30 feet from the ground, but occasionally is higher. It is a compact structure of grasses, small sticks, weed-stalks, and mud, the latter cementing the whole together into a strong and durable structure. The nest also often contains pieces of cloth, paper, string, cotton, or similar materials. The usual lining is fine grass, but other materials, such as cotton and yarn, are sometimes used. The eggs are usually three or four, of a light greenish blue, nearly always without markings. The birds, chiefly the female, incubate the eggs for about two weeks, and the young remain in the nest ordinarily for 12 days. Unfortunately they frequently leave the nest before they are able to fly, and, therefore, may fall victims to their enemies, often prowling cats. At times the Eastern Robin is very solicitous for the welfare of its young, particularly when they are becoming grown, and for a short time after they leave the nest, when they really need protection.

The Eastern Robin is a winter resident, reported from December 21 to March 4, in the greater part or all of Louisiana, probably common, though it is not distinguishable in the field from the Southern Robin. It has been detected from Monroe in the northern part of the State, south to Jefferson Parish.

The only certain records are those based on specimens that the writer has examined, and on recoveries of banded birds. The specimens are from Natchitoches, January 16, 1908, a single female, collected by A. H. Howell; Alexandria, January 9, 1908, one female, A. H. Howell; Lecompte, a single male, February 11, 1908, A. H. Howell; Baton Rouge, February 1 and March 4, 1937, George H. Lowery, Jr.; also one unsexed bird collected in Jefferson Parish,

January 26, 1888, and now in the museum of Tulane University. A bird banded at Kingston, Ontario, was captured at Lake Pontchartrain on December 21, 1934; and another banded on Long Island, New York, was killed at Cottonport, La., on January 19, 1936. Most of the records of robins from Louisiana except the specimens listed here are hereinafter included under the Southern Robin, *Turdus migratorius achrusterus*, although some of such records may refer to the present race. George H. Lowery, Jr., reports the Eastern Robin as a common winter visitor in northern Louisiana, where he has observed it at Monroe, and there is no reason to suppose that this is not its status there, as well as in other parts of northern and central Louisiana.

SOUTHERN ROBIN

Turdus migratorius achrusterus (Batchelder)

The Southern Robin very closely resembles its relative, the Eastern Robin, differing chiefly in smaller size, lighter and duller coloration, both above and below. These differences are so slight that they are not with certainty discoverable in the field. The Southern Robin is resident in parts of most of the southern states, and is found as far north as central Maryland and Indiana.

It lives in much the same kind of country and has much the same habits as the northern bird. In many parts of the south it is extending its breeding range southward.

The Southern Robin is a permanent resident, rare in summer but abundant in winter, in northern, central, and southeastern Louisiana, reported north to Lake Providence, West Carroll Parish, Monroe, Bienville, Choudrant, Ruston, Minden, Benton in Bossier Parish, and Belcher; west to Foster, Shreveport, Mansfield, Natchitoches, Many, Alexandria, and Lecompte; south to Raceland, Bayou Barataria, Oneida, and New Orleans; and east to Mandeville, Covington, Hackley, Long Bridge in Avoyelles Parish, Jena, and Bear Lake northwest of Tallulah. It is also a common winter resident, from October 9 to April 6, in the coast region of the southern part of the State, south to the southwestern corner of

Cameron Parish, Cameron, Calcasieu Lake, Grand Chenier, Rainey Wild Life Sanctuary, Chenier au Tigre, Marsh Island, Little Caillou Bayou, Diamond, and the Delta Duck Club on Octave Pass in the Mississippi River Delta. It breeds from April to August.

Specimens of the Southern Robin have been examined in the present connection as follows: Natchitoches, January 16, 17, and 20, 1908, collected by A. H. Howell; New Orleans, March 9, 1936, by T. D. Burleigh; Chenier au Tigre, March 10, 1931, by A. M. Bailey; Baton Rouge, February 15, 1937, collected by J. E. Younger; Jefferson Parish, January 12, 1899, two obtained by Andrew Allison; another in the museum of the Louisiana Department of Conservation at New Orleans from the same locality, November 29, 1932; and from Belle Chasse, February 19, 1933; and in the museum of Tulane University from New Orleans, February 16, 1894; Sauve in Jefferson Parish, February 19, 1888; and Hammond, November 15, 1876. The number of specimens seen indicates that this is probably the most numerous form of the Robin in Louisiana, but it is, however, now not possible to determine this positively. Most of the records of robins except the specimens of the Eastern Robin examined are included under the present form, but probably some of these belong under *Turdus migratorius migratorius*, either wholly or in part. The two races are, of course, not determinable subspecifically in the field.

Mrs. Bruce Reid found this bird breeding near Ruston in August, 1926, and also a short distance west of Minden. Also, Miss Caroline Dormon has found it nesting at Briarwood in Natchitoches Parish; and Ambrose Daigre says that it breeds at Alexandria. J. S. Campbell considers it fairly common as a summer resident at Bienville, where he has observed several nests each year. The writer met with the Southern Robin at the following localities in summer, presumably breeding: Choudrant, four observed, June 17, 1933; Shreveport, June 18, 1933; Many, June 19, 1933; Alexandria, June 16, 1933; Raceland, June 23, 1933; Bayou Barataria, June 10, 1933; and Jena, June 16, 1933. J. P. Everett reports that it was nesting at Farmerville during

May and June, 1937; and Robert Butler states that it breeds at Bains.

Robins presumably of this race were seen commonly at Bear Lake, three miles northwest of Tallulah, February 17 to March 1, 1904, by Ned Hollister; at Long Bridge in Avoyelles Parish by W. L. McAtee, February 12, 1910; at Oneida near Convent, December 23, 1893, to January 1, 1894, by H. H. Kopman; and at Covington, seen also by Mr. Kopman. G. L. Vivant noted it at New Orleans, April 11, 1918; and A. H. Howell found it at Hackley, February 20 to 24, 1912. It doubtless breeds, at least occasionally, at these localities in southeastern Louisiana, since it has been found nesting on the coast of the State of Mississippi. Robins in winter, supposedly of this form, have been seen by the writer south of the breeding range in Louisiana, at the Orange-Cameron Land Company's club house, January 26 and 27, 1928; and on Black Bayou, in Cameron Parish northwest of the club house, January 27, 1928. W. L. McAtee noted robins in small numbers at Cameron, November 28 to December 6, 1910; and the writer found them at Calcasieu Lake, December 30 and 31, 1932; at Grand Chenier, December 31, 1932; and at the Rainey Wild Life Sanctuary, January 23, 1928. A. M. Bailey noted this bird common at Chenier au Tigre, December 8 to 18, 1925; and Stanley C. Arthur reported it at Marsh Island, February 6 to 8, 1915. The writer observed it on Little Caillou Bayou near Bush Canal in Terrebonne Parish, December 24, 1932; and at the Delta Duck Club in the Mississippi Delta, December 20, 1932. H. L. Ballowe reported it also at Diamond, February 20, 1902.

WOOD THRUSH

Hylocichla mustelina (Gmelin)

The Wood Thrush is a delightful bird, and a great favorite with all bird lovers. It is of moderate size, being only about eight inches in length, reddish brown above, white below, with large round black spots on the breast. Its trim lines and beautiful song quickly identify it wherever it happens to be.

It is primarily a woodland bird, living in the thickets, woodlands, moist and dry swamps, and even in cultivated areas, particularly about dwellings where the trees and shrubbery are numerous, or even in the parks, and sometimes in the tree-lined streets of cities, especially on their outskirts. It is often seen running or hopping about the lanes or on the ground, in woodlands and thickets, sometimes scratching for its food, or investigating the nooks and crannies where something to eat may be discovered.

The song of this thrush is one of the most beautiful of all our native North American birds. It is a rich and flute-like phrase of three or four notes that have been frequently represented by the syllables 'e-o-lee'.

Its food is made up of various kinds of insects, including grasshoppers, flies, bugs, caterpillars, ants, and different kinds of beetles; also earthworms, snails, myriapods, and spiders. To a considerable extent also it lives on various kinds of wild fruit, such as mulberries, blueberries, elderberries, grapes, dogwood, and other berries. Only a small amount of cultivated fruit is taken. The injurious insects that it consumes make it undoubtedly one of our very beneficial birds.

This bird breeds in thickets and woodlands, or even in towns, placing its nest in a low tree or bush, usually not very well concealed, and not more than 20 feet from the ground. It is a solid structure very much like that of the Robin, composed of weed-stalks, grass, bark, leaves, pieces of paper, and similar materials, usually lined with rootlets. The three or four eggs are light greenish blue, unmarked. About 12 days are required for incubation, and only one brood is normally reared.

The Wood Thrush is a summer resident, fairly common in summer, from March 25 to October 25, but more numerous during the migrations, occurring throughout Louisiana excepting probably the marsh region in the vicinity of the Gulf Coast; reported north to Mer Rouge, Rayville, Monroe, Bienville, and Caddo Lake; west to Shreveport, Crichton, Mansfield, Natchitoches, Robeline, Fort Jesup, Many,

Fisher, Florien, Sandel, Anacoco, Pickering, and De Ridder; south to Sulphur, Iowa (La.), Lafayette, Avery Island, Saint Martinville, and New Orleans; east to Mandeville, Madisonville, Amite, Clinton, Saint Francisville, Bains, Trout Newellton, Somerset, Quimby, the Singer Preserve on the Tensas River in Madison Parish 13 miles southwest of Tallulah, and Tallulah. It is a transient in the Gulf Coast region of southern Louisiana, south of its breeding range, arriving at least as early as March 10, from Rigolets and Lake Borgne to Southwest Reef at the mouth of Atchafalaya Bay, to Chenier au Tigre, and probably throughout the rest of the coast region to the west. It breeds chiefly from late April to June, and there is record of eggs on June 2.

Vernon Bailey found this thrush common in the woodlands about Mer Rouge, June 2 to 7, 1892; and H. H. Kopman noted its arrival on April 2, 1933, at Shreveport, where it breeds. A. H. Howell saw it at Mansfield, April 26 to May 3, 1907, and collected a single individual there on April 27 of that year. The writer observed it at Rayville, June 17, 1933; at Caddo Lake, and eight miles south of Crichton, June 18, 1933; at Natchitoches, Robeline, Fort Jesup, Many, Fisher, Florien, Sandel, Anacoco, Pickering, and De Ridder, June 19, 1933. George E. Beyer reported in 1891 that the Wood Thrush was breeding at Madisonville and Clinton; and H. H. Kopman found it at Saint Martinville along Bayou Teche, August 9 to 12, 1917. J. S. Campbell says that it is a common summer resident at Bienville, from April 5 to late September, and he has found it nesting in April. Edward Butler reported it breeding at Saint Francisville in 1915, and at Bains in 1916. George H. Lowery, Jr., considers it a common summer resident at Baton Rouge, where it arrives in spring about April 1. He noticed it three miles north of Sulphur, June 20, 1935. The writer observed it at Avery Island, June 21, 1933; at Trout, Newellton, Somerset, Quimby, also on the Singer Preserve, and at Tallulah, June 16, 1933. Vernon Bailey found the species numerous at Iowa (La.), from April 6 to 9, 1899, and collected there a single specimen on April 8, 1899. R. J. Thompson also obtained one at Lafayette, May 23, 1892.

Specimens in the museum of Tulane University are from Mandeville, April 25, 1876; and from Amite, May 31, 1888. Henry W. Henshaw collected specimens of the Wood Thrush at Rigolets, April, 1870, and at Lake Borgne, March 27, 1870; A. M. Bailey, one at Chenier au Tigre, March 10, 1931; and T. D. Burleigh, another at New Orleans, May 30, 1935. Specimens in the museum of the Louisiana Department of Conservation at New Orleans were taken at Grand Isle, April 6, 1931, by E. S. Hopkins, and April 6, 8, and 15, 1936, by Ambrose Daigre; and there are eggs in the United States National Museum collected at Grand Coteau, June 2, 1887. A bird of this species struck the Southwest Pass Lighthouse, April 3, 1908. Andrew Allison reported the arrival of the species at New Orleans, March 25, 1900.

EASTERN HERMIT THRUSH

Hylocichla guttata faxoni Bangs and Penard

This bird resembles to some extent the Wood Thrush, but it is smaller, and is olive brown or olive green above, with a somewhat reddish tail, and with smaller and more streak-like dark markings on the under surface. It is a more northern bird than the Wood Thrush, and is found in some one of its forms all over the northern United States and parts of Canada, as far north as southern Alaska. It is well named 'Hermit Thrush' because of its retiring nature. It is seldom seen in any very open country, except sometimes during migration, but it is an inhabitant of the woods and dense thickets, swamps, and sometimes the borders of more or less wooded or bushy pastures. It is particularly fond of evergreen trees.

Its song is longer, much more varied, even sweeter than that of the Wood Thrush, and is on a higher pitch, though not as strong or as flute-like. It consists of two or three series of three notes connected by others.

This bird lives on various insects, such as ants, caterpillars, beetles, flies, crickets, bugs, and wasps, and eats also spiders and some worms. Particularly during the autumn and winter the Hermit Thrush's diet turns to

various kinds of wild berries and fruits, and of these it consumes a large variety, such as those of the Virginia creeper, smilax, dogwood, holly, poison ivy, checkerberries, wild grapes, and the berries of the juniper.

This bird builds its nest on or near the ground, although occasionally a number of feet above on a low tree, in a thicket, or in the undergrowth of woodlands, sometimes well concealed by some kind of vegetation. It is built of twigs, bark, moss, weed-stalks, grasses, leaves, and fur, and lined with rootlets, various other plant fibers, and pine needles. The usually four eggs are greenish blue, unmarked. Usually about 12 days are required for hatching the young.

The Eastern Hermit Thrush is a fairly common winter resident, from September 26 to May 15, in practically all of Louisiana; reported north to Lake Providence; Oak Grove in West Carroll Parish, Monroe, Bienville Parish, and Belcher; west to Foster (five miles east of Shreveport), Mansfield, and Natchitoches; south to the lower Vermilion River, Chenier au Tigre, Avery Island, Cote Blanche between Baldwin and Cypremort, Bayou Black in Terrebonne Parish, Houma, Grand Isle, Jefferson Parish, Marrero, and New Orleans; and east to Pearl River, Mandeville, Covington, Hackley, Tallulah, and East Carroll Parish.

All the Louisiana specimens of the Hermit Thrush examined in the present connection belong to the eastern race. These are as follows: Belcher, February 3, 5, and 7, 1908, A. H. Howell; Foster, January 30, 1908, A. H. Howell; Mansfield, January 23 and 25, 1908, A. H. Howell; Natchitoches, January 21, 1908, A. H. Howell; Lecompte, January 11 and 14, 1908, and February 11, 1908, A. H. Howell; Clarks, January 6, 1908, A. H. Howell; Jefferson Parish, April 2, 1898, and April 10, 1899, Andrew Allison, and February 15, 1930, and March 30, 1904, H. H. Kopman; also February 15, 1930, E. S. Hopkins; New Orleans, November, 1932, and February 8, 1933, Ambrose Daigre; and January 1, 1932, and December 4, 1932, collector unknown; Pearl River, November 6, 1932, Winston E. Nolan; Marrero, November

15, 1932, and February 15, 1933, Winston E. Nolan; Grand Isle, April 2, 1928, E. S. Hopkins; Chenier au Tigre, March 10, 1931, A. M. Bailey; and four in the museum of Tulane University, obtained at Avery Island, January 20, 1894, at Mandeville, January 18, 1879, and at Covington, November 13 and 15, 1889.

Ned Hollister noted this species common in West Carroll, East Carroll, Morehouse, and Madison parishes, February 11 to March 20, 1904; A. H. Howell saw it at Hackley, February 20 to 24, 1912, also at Covington, November 2 to 3, 1908. H. H. Kopman found it at Oaklawn near Lacombe, February 24, 1918; at Cote Blanche, January 13 to 14, 1918; and at New Orleans, May 15, 1915. Andrew Allison reported it at New Orleans, September 26 and October 9, 1894, and on April 13, 1895; and Ambrose Daigre at Grand Isle on May 5, 1936. J. S. Campbell considers it common during migrations but not so in winter in Bienville Parish. The writer saw this thrush along Bayou Black near Houma, January 27, 1932; and on the lower Vermilion River, January 23, 1928.

Other races of the Hermit Thrush native to the western United States should be found occasionally in Louisiana, either in winter or during migrations, but further collecting is necessary to determine their presence.

OLIVE-BACKED THRUSH

Hylocichla ustulata swainsoni (Tschudi)

Very similar in general appearance to the Hermit Thrush, but wholly olive green above, with smaller dark spots on the anterior lower parts, and altogether a rather trimmer bird, the present thrush is one of the more inconspicuous and less frequently observed inhabitants of the woodlands.

It is a bird primarily of the deep forests and swamps, but at times ventures out into the more open country, wherever there are trees and thickets, even in the streets and the parks of the towns and cities, particularly during

seasons of migration. It is a more northern bird than the Wood Thrush, living in the northern states and in Canada, and migrating to pass the winter as far south as central South America. It is not a gregarious bird, but is seen usually in the trees, in thickets, or on the ground, in swamps and woodlands, where it seeks its food, singly or at most in scattered small companies.

Its song is similar to that of the Hermit Thrush, though even more liquid and ethereal, and ends on a rising scale. The song is not so often heard in the southern United States.

In food habits it is not very different from the other thrushes. Its fondness for insects is evident from the number of these that it consumes, including grasshoppers, flies, bugs, caterpillars, potato beetles, weevils, and other beetles. Some of the other items of its food consist of earthworms, snails, and spiders. It is fond also of various kinds of wild fruits and of weed seeds, and occasionally eats a few cultivated raspberries and blackberries.

It places its nest in a low tree or bush, ordinarily in an evergreen tree. It is made up of weed-stalks, grasses, mosses, twigs, leaves, and similar materials, and has usually a lining of fine roots. The three to five eggs are light greenish blue but marked with shades of brown and lilac.

The Olive-backed Thrush is a fairly common transient, from April 2 to May 21, and from September 22 (September 12 in southern Mississippi) to October 25 (October 31 in southern Mississippi), in the woodlands of most of Louisiana; reported from the eastern part of the State at New Orleans, Covington, Mandeville, and Monroe, west to Shreveport, Calcasieu Pass, Gueydan, and Ship Shoal Lighthouse, southwest of Racoon Point.

G. Würdemann collected this species in the spring of 1854 at Calcasieu Pass. E. R. Kalmbach saw it in the cypress growth south of Gueydan, April 29, 1925, and collected it in Cameron Parish, May 12, 1919. A single migrant

bird struck the Ship Shoal Lighthouse during the spring of 1907. A. K. Fisher collected it at New Orleans, May 21, 1886 and H. H. Kopman reported it at New Orleans, October 25, 1914, April 20 and 21, 1899, and at Covington, April 5, 1903; J. S. Campbell observed it at Bienville, April 16, 1932, and at Lucky in Bienville Parish on April 22, 1933. Notwithstanding that the writer has seen but two specimens of this subspecies from Louisiana, one in the museum of Tulane University, taken at Mandeville, October 18, 1876, and another in the Chicago Academy of Sciences, collected at Grand Isle, May 4, 1925, by E. S. Hopkins, it is probably the prevailing race in the State.

ALMA THRUSH

Hylocichla ustulata almae Oberholser

The Alma Thrush is a casual spring transient in Louisiana. There are but two records, one of these a specimen in the museum of Tulane University taken at New Orleans, April 21, 1895; the other a female in the Biological Survey collection taken by T. D. Burleigh at New Orleans, on October 3, 1936.

Further study of the western form of the Olive-backed Thrush, with much additional material, indicates that, after all, this is a valid subspecies, inhabiting the western part of North America, excepting the Pacific Coast region, and occurring casually eastward during migration. Compared with the eastern Olive-backed Thrush it is decidedly more grayish, or clearly olive green, thus less brownish or olivaceous. It was originally described from a specimen taken in the East Humboldt Mountains, opposite Franklin Lake, Nevada. For further particulars, including details of its geographic distribution, consult the original description.²⁰⁰

BICKNELL THRUSH

Hylocichla minima minima (Lafresnaye)

The Bicknell Thrush is an accidental spring transient in southern Louisiana.

²⁰⁰Oberholser, *The Auk*, Vol. XV, No. 4, October, 1898, p. 304.

There are only two records: a single bird obtained and recorded by Stanley C. Arthur,³⁰⁴ from Breton Island, May 16, 1917; and a specimen examined by the writer in the collection of the United States National Museum, collected by Andrew Allison at New Orleans, May 1, 1897.

GRAY-CHEEKED THRUSH

Hylocichla minima aliciae (Baird)

The Gray-checked Thrush is a transient visitor, from April 20 to May 13, and in September, uncommon during the spring, rare in autumn, in, however, most of Louisiana; reported from the Ship Shoal Lighthouse, Houma, New Orleans, Lobdell, Bayou Sara, and Monroe, west to Mansfield.

Specimens have been examined from Houma, May 13, 1892, collected by Vernon Bailey; from Mansfield, April 26, 1907, taken by A. H. Howell; and in the museum of Tulane University, from New Orleans, April 21, 1895, and April 30, 1874. George H. Lowery, Jr., found it rare at Monroe, and has but one record of its occurrence there, a single bird seen, April 28, 1931. C. W. Beckham noted it fairly common at Bayou Sara in April, 1887, and recorded its spring arrival there on April 22 of that year. Andrew Allison saw it at Lobdell, May 9, 1903; and H. H. Kopman reported it at New Orleans, May 3, 1898, April 20 and 21 and May 2, 1895, also on May 10, 1903. A bird of this subspecies struck the Ship Shoal Lighthouse during the spring of 1907, and was sent to the Biological Survey for identification.

VEERY

Hylocichla fuscescens fuscescens (Stephens)

The Veery is a transient, from April 8 to June 4, and from September 12 to October 27, fairly common in southeastern Louisiana, but rare elsewhere in the eastern and central portions of the State; recorded from Grand Isle, New Orleans, Mandeville, Madisonville, and Lobdell; west to Monroe, Bienville, Baldwin, and Gueydan. It is rare

³⁰⁴Bull. La. Dept. Cons., No. 5, January, 1918, p. 74.

in the autumn, and is observed most frequently in southeastern Louisiana.

The writer has seen the following specimens of this subspecies from Louisiana: Grand Isle, May 3, 1931, taken by Winston E. Nolan; two specimens in the museum of Tulane University, collected respectively at Madisonville, April 8, 1886, and Mandeville, May 3, 1874. Judging from the specimens examined, it appears that the Veery is the more common of the races of this species in Louisiana, and for that reason the sight records are placed under this form, with the possibility, however, that some of them belong wholly or in part to the Willow Thrush, which is the more common of the two races of this species in the upper Mississippi Valley. Louisiana authors have commonly recorded the Veery as the bird of Louisiana, but the Willow Thrush, *Hylocichla fuscescens salicicola*, would naturally be expected to be the prevailing form in the State.

E. R. Kalmbach saw a single individual south of Gueydan, April 29, 1925; and H. H. Kopman reported it a fairly common transient in the vicinity of New Orleans, where he noted it on September 12, 1912, and on October 19, 1912, as well as on May 22, 1913, and May 25, 1911. He saw it also, June 4, 1907, on Isle Derniere, evidently a bird very much belated in its migration. Mrs. G. L. Baldwin reported it at Baldwin in Saint Mary Parish, May 5, 1910; and Andrew Allison saw it at Lobdell, May 9, 1903. George H. Lowery, Jr., observed it but once at Monroe, May 4, 1930; and E. S. Hopkins recorded it as very common on Grand Isle from April 24 to May 4, 1925. J. S. Campbell reported it at Bienville on May 2, 1933. Specimens of this species, reported by S. Jones, struck the Southwest Reef Lighthouse at the entrance to Atchafalaya Bay, October 23 and 27, 1908.

WILLOW THRUSH

Hylocichla fuscescens salicicola Ridgway

The Willow Thrush is apparently but a rare spring transient, from April 20 to May 3, in central southern

Louisiana. Although in Louisiana it may be of as frequent occurrence as the Veery, there are only two actual records for the State.

These records are two specimens: one in the museum of the Louisiana Department of Conservation at New Orleans, collected at Grand Isle, May 3, 1931, by E. S. Hopkins; and the other in the State Capitol building at Baton Rouge, taken by Winston E. Nolan at Grand Isle, April 20, 1933.

EASTERN BLUEBIRD

Sialia sialis sialis (Linnaeus)

Not only a common but a favorite bird is the Eastern Bluebird. Its conspicuous upper parts of bright blue and its reddish brown breast are conspicuous field marks for the observer. This bird is an inhabitant of both the garden and orchard and of more or less open country, including the margins of woodlands, but it does not live ordinarily in the deep forests. It is frequently seen perched on stumps, and particularly delights in the telegraph and telephone wires.

The flight of the Eastern Bluebird is not strong, even sometimes, particularly when alighting, rather fluttering, but it often flies considerable distances, usually at no great altitude. While not in the ordinary sense of the word gregarious, it sometimes, particularly during migration, assembles in loose companies that are composed of a considerable number of birds.

The ordinary song of the species is a rather low mellow warble, uttered either on the wing or while the bird is perching. It also has mellow call notes and even a rather sharp rattling call of alarm.

By reason of its food habits it is without doubt decidedly useful to man. Most of its food consists of various insects, including many injurious kinds, such as flies, tent and other caterpillars, weevils, moths, grasshoppers, and crickets, although it eats other animals such as spiders

and earthworms. The vegetable part of the food of this bird consists of various kinds of wild fruit, such as blackberries and the berries of juniper, Virginia creeper, and smilax. It seldom feeds on cultivated fruit.

The Eastern Bluebird builds a nest of grasses and weed-stalks, lined with grasses, and placed in a cavity, such as a hollow in a tree, a woodpecker's hole, or a box put up for its purpose. The eggs are usually four to six and bluish white or very pale blue, without markings. The young are very faithfully cared for by the adults, and when they are fully fledged they are of a conspicuously brown-streaked appearance, very different from the fully adult birds. The young of the first brood are sometimes cared for by the adult male for a while after they leave the nest.

This well-known bird is one of our native species that should receive careful protection.

The Eastern Bluebird is a permanent resident, fairly common in summer, common in winter, over most of Louisiana, excepting possibly parts of the Gulf Coast region of southern Louisiana; reported north to Lake Providence, Oak Grove in West Carroll Parish, Mer Rouge, Monroe, Bienville, Ruston, and Belcher; west to Caddo Lake, Shreveport, Curtis, Taylortown, Elm Grove, Gayle, Frierson, Mansfield, Logansport, Natchitoches, Robeline, Hornbeck, Pickering, De Ridder, Longville, and Black Bayou in Cameron Parish; south to Cameron Parish, Iowa (La.), Mermentau, Jennings, Lafayette, New Iberia, Grand Isle, Deer Range Plantation in Plaquemines Parish; and east to Diamond, New Orleans, Slidell, Pearl River, Oaklawn near Lacombe, Mandeville, Madisonville, Covington, Hammond, Independence, Hackley, Clinton, Saint Francisville, Trout, and Tallulah. It breeds from March to August, and there are records of eggs from March 23 to June 2.

Specimens of the Bluebird from Louisiana examined in the present connection all belong, of course, to the eastern race. They are from the following localities: Avery Island, February 9, 1895; Deer Range Plantation, December,

1862; Saint James Parish, February 9, 1867; New Orleans, January, 1933, Ambrose Daigre, and December 2, and 28, 1936, T. D. Burleigh; two juveniles, Madisonville, May 12 and 14, 1888; Covington, November 16, 1889; Hammond, November 21, 1875; Pearl River, November 18, 1932, Ambrose Daigre; Independence, February 21, 1894; and New Orleans, March 20, 1935, May 13 and 15, 1935. Specimens were sent to the Smithsonian Institution from Prairie Mer Rouge in 1853, by J. Fairie; and from New Orleans, December 1, 1882, by R. W. Shufeldt. Eggs were collected at Cinclare Plantation in West Baton Rouge Parish by F. W. Langdon, March 23, 1881; and eggs in the United States National Museum, from Grand Coteau, were taken on June 2, 1887. J. S. Campbell considers the Eastern Bluebird a common permanent resident at Bienville, where it sometimes rears three broods of young.

E. L. Rollingson reported that birds of this species struck the Ship Shoal Lighthouse, southwest of Racoon Point, on April 21 and May 2, 1907. Vernon Bailey found this bird common and breeding at Mer Rouge, June 2 to 7, 1892; and A. H. Howell obtained specimens at Belcher, February 4, 5, and 6, 1908; as well as at Mansfield, April 29, 1907, January 24, 1908, April 27, 1907, and young birds on May 2 and 3, 1907. He collected it also at Natchitoches, January 16, 17, and 21, 1908. The writer observed this bird at Caddo Lake, Shreveport, Curtis, Taylortown, and Elm Grove, June 18, 1933; at Robeline, Hornbeck, Pickering, De Ridder, and Longville, June 19, 1933; and at Iowa (La.), June 20, 1933. E. R. Kalmbach found it common in Cameron Parish during early May, 1919; and W. L. McAtee saw a few at Cameron, November 30, 1910. C. A. Bibbins reported it common and breeding in 1887 at Mermentau; and R. J. Thompson noted it breeding at Lafayette, May 18 and 26, 1892. H. H. Kopman saw it at Youngsville between May 27 and June 9, 1918; at Oaklawn, February 24, 1918; and at Mandeville, August 18, 1917. H. L. Ballowe found it at Diamond, March 8, 1902; and A. H. Howell met with it at Slidell, October 28 to November 1, 1908; and Hack-

ley, February 20 to 24, 1912. George E. Beyer gave it as breeding at Clinton in 1891; and Edward Butler as breeding at Saint Francisville in 1915, and at Bains in 1916. E. R. Kalmbach saw a single individual at Tallulah, July 5, 1924; and the writer observed it at Trout and Alexandria, June 16, 1933; as well as in the Little River valley near White Sulphur Springs in LaSalle Parish on the same day.

GREENLAND WHEATEAR

Oenanthe oenanthe leucorhoa (Gmelin)

The Greenland Wheatear is an accidental autumn visitor in southern Louisiana.

There is only one record for the State, that of a specimen obtained by George E. Beyer, on the outskirts of New Orleans, September 12, 1888. The specimen is a mounted bird in the Gustave Kohn collection in the museum of Tulane University, and has been examined in the present connection. It was originally recorded by George E. Beyer in 1900.²⁰⁷

Family SYLVIIDAE

BLUE-GRAY GNATCATCHER

Polioptila caerulea caerulea (Linnaeus)

One of our smallest birds, blue-gray above and white below, not over five inches in length, slender and trim, the Blue-gray Gnatcatcher is easily identified in the field. Its fondness for the forests, particularly the more open portions, for thickets and brushy areas, and for the edges of woodlands, as well as its small size, make it sometimes not so easy to observe as are some of our other small birds. On the other hand its activity often makes it conspicuous, as it is rather a restless bird.

In flight it is usually quick, but the bird does not ordinarily travel far without stopping. Sometimes it flies rather high, particularly when passing from one tall tree

²⁰⁷ Proc. La. Soc. Naturalists, for 1897-1899 (1900), p. 118.

to another, but it is usually seen flitting about the underbrush, often opening its wings and tail and acting very much like a flycatcher. It is not often seen on the ground and it seldom assembles into what might be called a flock, although during migration a considerable number may be found within a small area.

The Blue-gray Gnatcatcher's note is a thin, wiry sound that is not audible far. It has, however, a very soft, rather melodious, song of a number of notes, although this rather remarkable song for so small a bird is not loud.

The food of the Blue-gray Gnatcatcher consists largely of insects, such as flies, caterpillars, grasshoppers, bugs, and beetles, many of them injurious kinds, and for this reason may be considered from the standpoint of man a very beneficial bird.

The nest of the Blue-gray Gnatcatcher is a beautiful structure composed of soft vegetable materials of various kinds, covered on the outside with bits of lichens and bound together with insect and spider webs. It very much resembles the nest of the Ruby-throated Hummingbird, although, of course, it is much larger. It is placed usually in a bush or tree on the upper side of a branch often at a considerable distance from the ground, and is, on account of its protectively colored appearance often difficult to find. It contains usually three to five small eggs of pale greenish blue or bluish white color, with numerous spots of reddish brown and lavender.

In many places this bird is considerably more numerous than one would be inclined to believe, because the character of its haunts are such that it can easily be hidden.

The Blue-gray Gnatcatcher is a permanent resident, fairly common, but more numerous during the migrations, throughout most of Louisiana, except possibly the immediate Gulf Coast region, where it is at least a winter resident; reported north to Holly Ridge, Rayville, Start, Monroe, Bienville, and Caddo Parish; west to Caddo Lake, Shreveport, Cross Lake, Crichton, Mansfield, Natchitoches, Ana-

coco, and Iowa (La.); south to Iowa (La.), New Iberia, Saint Martinville, Houma, Bayou Des Allemands, and Diamond; and east to Belair, New Orleans, Pearl River, Oaklawn near Lacombe, Mandeville, Madisonville, Covington, Bedico River, Hammond, Amite, Clinton, West Feliciana Parish, Simmesport, Jena, Ferriday, Lake Saint John, Thomastown, Singer Preserve on the Tensas River 13 miles southwest of Tallulah, and Tallulah. It breeds from late March to June, and there is record of eggs on June 3.

Specimens have been examined from Iowa (La.), April 7, 1899, taken by Vernon Bailey; from New Orleans, January 5, 1936, July 8, 1935, and August 8, 1935, by T. D. Burleigh; Grand Isle, March 28, 1931, in the museum of the Louisiana Department of Conservation at New Orleans; and in the museum of Tulane University from Mandeville, April 21, 1871; Madisonville, July 14, 1888; Covington, May 22, 1888; and Bedico River, August 16 and 19, 1890. Specimens were also obtained by R. W. Shufeldt at New Orleans, November 9, 1882, and March 31, 1883; and by A. M. Bailey at Chenier au Tigre, December 12, 1925, and March 10, 1930. Eggs in the United States National Museum were collected at Grand Coteau, June 3, 1887, and a nest on June 6, 1887. J. S. Campbell discovered a nest near Bienville on April 4, 1933.

A. H. Howell saw this species nest-building at Mansfield on April 27, 1907. The writer noted it at Caddo Lake, Shreveport, Cross Lake, and Crichton on June 18, 1933; at Natchitoches and Anacoco, June 19, 1933. Vernon Bailey found it common at Iowa (La.), April 6 to 9, 1899; and common and breeding at Houma, May 4 to 16, 1892. George H. Lowery, Jr., considers it common in summer but rare in winter at Baton Rouge, where it frequents the hardwood forests along the streams. H. H. Kopman reported it at Saint Martinville, August 9 to 12, 1917; at New Iberia, March 29, 1902; at Bayou Des Allemands, June 19 to 21, 1917; at Oaklawn, August 17, 1917; at New Orleans, June 22 to July 9, 1917; at Mandeville, August 18, 1917; at Hammond, April 26, 1918; common at Amite, March

27, 1918; and at Covington, March 22 and 24, 1901. George E. Beyer noted it in 1891 as breeding at Clinton; and Robert Butler reported in 1933 that it bred in West Feliciana Parish. H. L. Ballowe found it at Diamond, April 10, 1902; and Ned Hollister reported it fairly common at Belair from April 2 to 8, 1904. The writer observed it at Jena, Lake Saint John, and Ferriday, June 16, 1933; on the Singer Preserve, June 16 and 17, 1933; and at Pearl River, June 27, 1933. H. H. Kopman found it at Thomastown, July 13 to 28, 1896; and E. R. Kalmbach east of Tallulah, June 28, 1924. The writer met with it at Rayville, Holly Ridge, and Start, June 17, 1933.

A. M. Bailey noted this species fairly common at Chenier au Tigre between December 8 and 18, 1925. H. H. Kopman recorded it common in winter at New Iberia; he saw it at New Orleans, January 5, 12, and 26, 1895, and February 21, 1918; and at Oneida near Convent, December 23, 1893, to January 1, 1894. Andrew Allison recorded it as not infrequent during the winter at Lobdell; George H. Lowery, Jr., reported it from Monroe, December 27, 1934, and from Shreveport in February; and A. H. Howell saw several individuals at Lecompte, January 11 to 15, 1908.

EASTERN GOLDEN-CROWNED KINGLET

Regulus regulus satrapa Lichtenstein²⁰⁸

Among the birds that journey to the southland and visit Louisiana during the winter season, few are more attractive than this mite of a bird. With the exception of the Hummingbird it is one of our very smallest birds, and were it not for its lisping note it might easily pass unnoticed in the thick foliage that it frequents, although it is found almost anywhere in trees and bushes. It is a bird of the forest as well as the more open country, and often associates with chickadees, nuthatches, and Brown Creepers. At close range it is easily distinguished by its olive green upper parts, and bright orange or yellow crown, with dull white under parts shaded with olive gray.

²⁰⁸ *Regulus satrapa satrapa* of the 1931 A. O. U. Check-List.

It is usually a very active bird, flitting about on the branches, often toward the ends, much like a chickadee. Its flight is rather quick and nervous, but not much prolonged. Sometimes this bird congregates into companies of considerable size, particularly as it passes through the forest in its search for food. It is mostly a bird of the trees and bushes, rarely ever descending to the ground. In addition to its lisping call, it has a beautiful though rather weak song, which, however, is seldom heard during the winter months.

As would naturally be inferred from its habits, the Golden-crowned Kinglet is an insectivorous bird, living chiefly on small insects and their eggs. While this bird, of course, does not breed in Louisiana, its nest is of sufficiently interesting character to be worthy of mention. It is a ball-like structure, not unlike some nests of the vireos, although less trimly built, suspended among the branches of trees, and composed of the bark of trees, mosses, and feathers, occasionally at a considerable distance from the ground. The eggs are numerous, usually from eight to ten in number, and creamy white with brown spots.

Notwithstanding that this bird is so inconspicuous and so likely to be overlooked in the forest, it is one of our most beneficial birds.

The Eastern Golden-crowned Kinglet is a rather uncommon and local winter resident, from October 18 to April 24, casually to May, in most of Louisiana; recorded north to Lake Providence, Oak Grove in West Carroll Parish, and Monroe; west to Bienville and Cameron Parish; south to Chenier au Tigre, New Iberia, Oneida near Convent, and New Orleans; and east to Lake Catherine, Mandeville, Covington, Lobdell, Bains, and Tallulah. It probably occurs also throughout most if not all of the coast region where suitable habitats of bushes and trees exist. The paucity of records for this region is probably due chiefly to lack of observations.

Ned Hollister reported seeing a few in the northeastern parishes of the State, from Madison Parish to Morehouse

Parish between February 11 and March 20, 1904. George H. Lowery, Jr., recorded it as a transient and a winter visitor at Monroe; and A. M. Bailey noted it at Chenier au Tigre, December 8 to 18, 1925; Andrew Allison saw it at Lobdell, March 7, 1903; and H. H. Kopman found it fairly common at Oneida near Convent, December 23, 1893, to January 1, 1894; on the shore of Lake Pontchartrain about 20 miles west of New Orleans, December 1, 1917; along the Mississippi River near New Orleans between January 28 and February 15, 1918; and at New Orleans, March 26, 1916. It was noted by him also at Covington, October 18, 1903; and by Robert Butler at Bains, November 20 to December 4, 1929. According to J. S. Campbell it is a common winter resident at Bienville, from October 29 to April 24. A specimen in the museum of the Louisiana Department of Conservation at New Orleans was taken at Mandeville in May, 1932; and another in the State Capitol at Baton Rouge was obtained at the same place on December 26, 1932. In the Biological Survey collection there is one obtained at New Orleans by T. D. Burleigh on November 30, 1936. A. M. Bailey collected one at Chenier au Tigre on January 2, 1934, and another on December 15, 1925.

The Golden-crowned Kinglet of North America is undoubtedly but a subspecies of the European Golden-crested Wren, *Regulus regulus*, since the differences between the two are entirely bridged by individual variation, as is the case with so many birds in Europe and North America. Our American bird should, therefore, be called *Regulus regulus satrapa*.

EASTERN RUBY-CROWNED KINGLET

Corthylio calendula calendula (Linnaeus)

The Ruby-crowned Kinglet, scarcely larger than the Golden-crowned Kinglet, is similar in general appearance, but instead of an orange or yellow crown has in the male a bright ruby spot on the top of the head, which, however, is usually concealed in life. Also in notes and general habits it is very much like that bird but is not quite so active in

movement. It lives in forests and in all places where there are trees and bushes, and is found often in company with birds with which the Golden-crowned Kinglet associates.

In addition to its lisping call it has a remarkable and rather extended song, louder than would be expected from a bird of its size, and audible sometimes to a considerable distance. This song is not so frequently heard during the winter season.

Its food, like that of the Golden-crowned Kinglet, is almost entirely animal matter, such as bark beetles, caterpillars, flies, and grasshoppers. The little vegetable food consists of seeds and wild fruit. Nearly all of this diet is sought either in trees and bushes or on the wing.

The bird does not breed in Louisiana, but in the northern evergreen forests. The nest is almost pensive and well fixed in the dense foliage. It is composed of mosses and lichens, with a lining of moss, hair, or feathers. The creamy white brown-dotted eggs are usually from five to ten in number. The young in the fall very much resemble the adult female.

The Eastern Ruby-crowned Kinglet is a fairly common winter resident, from October 18 (October 6 in southern Mississippi) to the middle of May, in most of Louisiana; reported north to Oak Grove in West Carroll Parish, Monroe, Bienville, and Belcher; west to Foster, Mansfield, Natchitoches, and Black Bayou in Cameron Parish; south to Chenier au Tigre, New Iberia, Baldwin, Terrebonne Bayou southeast of Houma, and Diamond; east to New Orleans, Oneida near Convent, Chef Menteur, Mandeville, Covington, Slidell, Hackley, Tallulah, and East Carroll Parish.

Specimens of this subspecies have been examined in the museum of the Louisiana Department of Conservation at New Orleans, taken at Mandeville, May, 1932; and in the State Capitol at Baton Rouge, taken at New Orleans, December 23, 1932. R. W. Shufeldt collected this species at New Orleans, January 2, 1883; and A. M. Bailey on De-

cember 7, 1916; G. K. Cherrie on February 11 and 15, 1896, and at Buras, February 1, 1896; and A. H. Howell at Clarks, January 7, 1908, and at Foster, January 29, 1908. He noted several at Belcher, February 3 to February 8, 1908; and found this kinglet fairly common at Mansfield, January 23 to 25, 1908; also at Natchitoches, January 16 to 21, 1908. The writer noted it on Black Bayou in Cameron Parish, between the Orange-Cameron Land Company's club house and Orange, January 27, 1928; also on Terrebonne Bayou below Houma on December 24, 1932. H. L. Ballowe found it common at Diamond on February 2, 1902. H. H. Kopman reported it at New Orleans, rather common, January 6 and 8, 1894; at Oneida near Convent, December 23, 1893, to January 1, 1894; Chef Menteur, December 23, 1917; and at Covington, October 18, 1903. A. H. Howell saw it at Slidell, October 29, 1908, at which time he heard it singing; and at Hackley, February 20 to 24, 1912. George H. Lowery, Jr., reports it at Baton Rouge from October to April 22 (1933). Andrew Allison noted it at Lobdell, April 25, 1903; and Ned Hollister found it common in Morehouse, West Carroll, and Madison parishes, between February 11 and March 20, 1904. According to J. S. Campbell it is a common winter resident at Bienville, from October 17 to the middle of May.

Family MOTACILLIDAE

AMERICAN PIPIT

Anthus spinoletta rubescens (Tunstall)

This is another of our winter birds that is somewhat less known than it deserves to be, because of its interesting life history. It is an inhabitant of the far northern Arctic regions of North America, as well as the tops of high mountains in the United States. It is an inconspicuous brown bird with light under parts usually heavily streaked on the breast. It frequents the open country, particularly the forests and flats near water, although sometimes plowed fields, prairies, and other open areas. It is fond of being on the

ground, where it either walks or runs, the frequent motions of its tail forming a good field character.

The movements of the American Pipit are rather erratic, and at times the bird alights on wires or even trees. Its flight is often long sustained, somewhat undulating, and performed sometimes at considerable height from the ground. The bird often gathers into companies of considerable size, and on the wing these flocks often perform interesting evolutions.

The note is a rather shrill thin call, somewhat like that of the Horned Lark, but it also has a song, not often heard in the winter, that is more melodious.

The food of this bird consists largely of insects, crustaceans, and mollusks, together with some wild berries and seeds. Some of the insects consumed, such as the cotton-boll weevil, are very injurious to crops.

This pipit's nest, which, of course, is never to be found in Louisiana, is rather well concealed on the ground and is composed of grasses and similar materials. The eggs are usually about five, white or nearly so, heavily speckled with dark brown.

The American Pipit is a fairly common but local winter resident, from October 10 to May 2, casually to June 10, in most of Louisiana; reported north to Lake Providence, Oak Grove in West Carroll Parish, Monroe, Bienville Parish, and Belcher; west to Foster, Shreveport, Mansfield, Natchitoches, and Black Bayou in Cameron Parish; south to Mud Lake in southwestern Cameron Parish, Calcasieu Lake, Grand Chenier, Florence Club 16 miles south of Gueydan, Kaplan, lower Vermilion River, Rainey Wild Life Sanctuary, Chenier au Tigre, Avery Island, and Diamond; east to Jefferson Parish, New Orleans, Lake Borgne, Slidell, Mandeville, Hammond, Hackley, Lobdell, New Roads, Alexandria and Tallulah.

Specimens of this species have been examined from Sauve in Jefferson Parish, January 9, 1889; Marrero, February 18, 1933, Winston E. Nolan; New Orleans, June

10, 1895, H. H. Kopman; December 8 and 20, 1935, T. D. Burleigh; December 24, 1897, Andrew Allison; January 9 and February 15, 1937, T. D. Burleigh; January, 1933, and December 19, 1932; Avery Island, January 18, 1894, George E. Beyer; Jefferson Parish, March 14, 1899; Alexandria, January 9, 1908. In addition to the specimens examined, the American Pipit has been taken at New Orleans, December 7, 11, and 13, 1883, by R. W. Shufeldt; south of Gueydan, March 9, 1926, by E. R. Kalmbach; at Lake Borgne, February 21, 1870, by Henry W. Henshaw; at Chenier au Tigre, March 10, 1931, and January 5, 1934, by A. M. Bailey; at Mandeville, February 22, 1918, by C. J. Hunt; and at Natchitoches, January 18, 1908; Lecompte, January 13 and 15, 1908, February 10 and 11, 1908; Foster, January 28, 29, and 30, 1908; and Alexandria, January 9, 1908, all by A. H. Howell.

A. H. Howell noted the species not uncommon at Belcher, February 3 to 8, 1908; at Mansfield, January 23 to 25, 1908; at Slidell, November 1, 1908; and at Hackley, a single bird between February 20 and 24, 1912. H. H. Kopman reported it as abundant at Kaplan in Vermilion Parish, January 15 to 16, 1918; at Oaklawn near Lacombe in Saint Tammany Parish, February 24, 1918; at New Roads, December 15, 1917; and at Hammond on January 24 and 25, 1918. Andrew Allison saw it at Lobdell, November 2 and 12, 1902, and May 2, 1905. George H. Lowery, Jr., finds it a common winter visitor, appearing sometimes in large flocks at Baton Rouge. A. B. Blakemore reported it from New Orleans, October 10, 1895, and George E. Beyer from the same locality on May 2, 1894, a late migrant. H. L. Ballowe noticed it at Diamond, October 23 and November 10, 1901, and April 3, 1902. The writer found it about the club house of the Orange-Cameron Land Company in southwestern Cameron Parish, January 25, 1928, and south of the club house on the beach of the Gulf of Mexico, January 26, 1928; likewise on Black Bayou in Cameron Parish between the club house and Orange, January 27, 1928; and at Mud Lake, near the Gulf beach, southwest of Calcasieu

Lake, January 26, 1928. He also saw eight birds at Calcasieu Lake, December 31, 1932; and noted the species at Grand Chenier, December 31, 1932; at the Florence Club, 16 miles south of Gueydan, December 29, 1932; on the lower Vermilion River, January 22 and 23, 1928; and at Avery Island, December 28, 1932.

SPRAGUE PIPIT

Anthus spragueii (Audubon)

The Sprague Pipit is a rare winter resident, from November 3 to April 14, in most of Louisiana where there are suitable localities, from Jennings, Kaplan, Avery Island, Hester, Jefferson Parish, Oneida, and New Orleans, north to Lobdell and Monroe. It is apparently less numerous at the present time than in former years.

Specimens of this species have been examined from Avery Island, collected, January 20, 1894, and February 14, 1894, by George E. Beyer; and from Jefferson Parish, collected by Andrew Allison, November 24, 1898. H. H. Kopman saw one bird at Jennings about January 31, 1918; a few at Kaplan, January 15 to 16, 1918; also several at Oneida near Convent, December 23, 1893, to January 1, 1894; noted three at West Carrollton, December 6, 1917; and four in a pasture, January 5, 1895, at New Orleans. Andrew Allison also observed it at New Orleans, November 24, 1898, March 23, 1895, and April 11, 1894; and at Lobdell, November 3, 1902. H. W. Pring found it at Hester, April 14, 1902; and George H. Lowery, Jr., recorded it from Monroe in March of 1929, and from Baton Rouge March 13, 1936.

Family BOMBYCILLIDAE

CEDAR WAXWING

Bombycilla cedrorum Vieillot

The Cedar Waxwing is in some respects one of our most erratic birds. It cannot be depended on always to appear at times when it should, and it often is absent at times

and from places which seem entirely favorable. It is one of the notable birds that visit Louisiana only in the winter and is well worthy of acquaintance. Its rather inconspicuous brown and dull yellowish plumage, its short though rather conspicuous crest, and peculiar wax-like tips on the ends of its flight feathers, together with a jet-black streak on the side of the head, its trim appearance, and soft lisping note, easily distinguish it from all our native birds. It frequents both woods and fields, and in fact might be found almost anywhere on trees or bushes. It is very fond of gathering into flocks, sometimes of considerable size, and when such a flock alights in a tree all the birds almost invariably face the same way, usually toward the wind.

The food of this bird is mostly fruit of various kinds, almost all of it wild. Its fondness for cherries has given it the name 'cherry bird', and its name Cedar Waxwing arises from its fondness for the berries of the red cedar. At times the Cedar Waxwing, however, is a flycatcher, and takes insects on the wing. Some of the most injurious species, such as the Colorado potato beetle, the elm-leaf beetle, and canker worm, are eaten by this bird, for which service it should have the gratitude of the orchardist and horticulturist. Other insects such as grasshoppers, butterflies, moths, bugs, scale insects, and bark lice are also at times taken.

In the more northern parts of the United States, where this bird breeds, it is conspicuous as one of the latest of the birds to nest, regularly not beginning its housekeeping until June or later. Its nest is placed normally in shade, forest, or orchard trees, although sometimes in bushes. It is a rather bulky, although somewhat compact structure of twigs, strips of bark, weed-stems, various plant fibers, including often rootlets, and sometimes rags, twine, and often paper; and the lining consists of similar materials with possibly the addition of horsehair and wool. The four to six eggs are usually grayish blue or greenish, much spotted with black. The young, when first out of the nest, are conspicuously striped below and are not by any means as handsome as the adults.

The Cedar Waxwing is an uncommon, locally common though irregular, winter resident, from September 27 to June 3, throughout the greater part of Louisiana; reported north to Monroe, Lake Providence, Bienville, and Minden; west to Shreveport, Natchitoches, and Chenier au Tigre; south to Marsh Island, Avery Island, Southwest Reef Lighthouse at the entrance to Atchafalaya Bay, Grand Isle, and Diamond; and east to New Orleans, Bayou Loutre in Saint Bernard Parish, Mandeville, Madisonville, Covington, Hammond, Lobdell, Clarks, and Tallulah. So far as known it does not breed in the State.

The writer has examined specimens of this species from Avery Island, April 2, 1894, and May 20, 1888; Morgan City, February 11, 1905, taken by W. B. Allison; Grand Isle, April 7, 1933, and April 14, 1937, Winston E. Nolan, and April 20, 1937, by Ambrose Daigre; New Orleans, January 10, 1873, February 15, 1894, May 13, 1888, December 9 and 15, 1886, March 9, 1936, and May 4, 1937; and Mandeville, April 10, 1875, and April 25, 1876. Andrew Allison also collected it in Jefferson Parish April 3, 1896; E. G. Wright at Avery Island May 11 and 16, 1930; George H. Lowery, Jr., at Baton Rouge, May 17, 1936; Ambrose Daigre at Grand Isle April 24, 1936; and A. H. Howell at Natchitoches, January 16, 18, and 20, 1908. The last mentioned observer noted it at Clarks, January 3 to 8, 1908; at Lecompte, January 11 to 15, 1908; and at Alexandria, January 9, 1908. H. H. Kopman found it common at Minden, May 15, 1929; and observed it also at Shreveport, May 28, 1931, and May 20 to June 1, 1935; at Napoleonville, May 11, 1923; at Hammond, January 24 and 25, 1918, and April 26, 1918; and at Covington, May 22, 1900. H. L. Ballowe reported it from Diamond, April 2, 1902; and Stanley C. Arthur found it on Marsh Island, February 6 to 8, 1915. Banded birds were recovered at Watson February 16, 1934, and at Houma February 25, 1934. Several individuals struck the lighthouse on Southwest Reef at the entrance to Atchafalaya Bay, February 5, 1902; and a specimen was also sent to the Biological Sur-

vey from Ship Shoal Lighthouse, which struck the light there sometime during the spring of 1907. Andrew Allison recorded it at Lobdell, May 9, 1903; and Miss Grace R. Meeker found it at Harrisonburg, September 27, 1912. J. S. Campbell considers it a common winter visitor to Bienville from October 9 to June 2; and Ambrose Daigre reported it common at Grand Isle, April 5 to 18, 1937. The writer observed this species on the lower Vermilion River in Vermilion Parish on January 22, 1928.

Family LANIIDAE

LOGGERHEAD SHRIKE

Lanius ludovicianus ludovicianus Linnaeus

Shrikes have become notorious in the United States for their peculiar habits of life. They are white, gray, and black birds of about the size of the Mockingbird, and, as a matter of fact, very closely in some respects resemble that bird, except that the tail is shorter and the flight more definitely direct, with a very rapid motion of the wings. A black line on the side of the head likewise will distinguish these birds from the Mockingbird.

The Loggerhead Shrike is mostly a bird of the thickets, bushes, and the more open areas. It is frequently to be seen along a road perched on the telegraph or telephone wires, on the wires of fences, on fence posts, or on the tops or branches of trees that furnish a good outlook.

It is usually a silent bird, but has a harsh call, and also rarely engages in a song that not distantly resembles that of the Catbird.

It is, in its food habits, however, that the peculiarity of the shrikes is most manifest. The Loggerhead Shrike, in common with the other American species, has the habit of killing considerably more prey than it can possibly use, and of hanging its booty on thorns, on the barbs of wire fences, or similar places, to which it frequently never returns. Seemingly the hunting is done largely without any particular need for the food. This habit has earned for it the name of

'butcher bird'. Its victims are chiefly grasshoppers, other large insects, mice, and less frequently small birds, but sometimes also snakes, and even frogs.

The nest is a bulky structure, usually in a bush or low tree, composed of various kinds of twigs, weed-stalks, grass, and other similar materials, with a lining of bark strips, hair, wool, or feathers. In this the four to eight eggs are laid and the young reared. The eggs are white or grayish, with brown, olive, or lavender markings. The young are more brownish than the adults and are not so clearly white below.

The Loggerhead Shrike is a common permanent resident in southern Louisiana, probably also in the Mississippi valley along the eastern border of the northern part of the State; reported north to Hackley, Amite, Greensburg, Clinton, Saint Francisville, Bains, Simmesport, Lake Saint John, Thomastown, Tallulah, Lake Providence, Melville in Saint Landry Parish, Opelousas, Lewisburg, Jennings, Roanoke, Welch, Iowa (La.), Lake Charles, Longville, Sulphur, and Vinton; west to Cameron Farm 14 miles south of Vinton, Black Bayou in Cameron Parish, and southwestern Cameron Parish; south to Calcasieu Lake, Cameron, Grand Chenier, Chenier au Tigre, the Rainey Wild Life Sanctuary, Marsh Island, Little Wax Bayou, Dulac in Terrebonne Parish, Bayou La Fourche, Grand Isle, Southwest Pass in the Mississippi River Delta, and the Delta Duck Club on Octave Pass; and east to Buras, Diamond, Phoenix, Waggaman, New Orleans, Slidell, Mandeville, Madisonville, Covington, and Franklinton. It breeds in Louisiana from April to June, and there is record of eggs as early as April 16.

The records along the northeastern border of the State here given are not based on the examination of specimens, and are referred to this form of the Loggerhead Shrike as the race most probably occurring there. This applies, in addition to localities of other observers given above, to shrikes observed by the writer at Jonesville, Lake Saint John, Waterproof, Saint Joseph, Newellton, and Quimby, on June 16, 1933, which may, of course, be regarded as a breeding date.

The writer has examined specimens of this shrike from the following localities: Morgan City, November 8, 1925, taken by Mrs. R. D. Svihla; Phoenix, May 7, 1935, and New Orleans, June 30, 1935, and December 21, 1935, by T. D. Burleigh; Grand Isle, April 22, 1937, by Ambrose Daigre; Lewisburg, September 3, 1871; Avery Island, January 20, 1894; Jefferson Parish, October 19, 1932; New Orleans, November 20, 1932, December 14, 1936, December 27, 1932, and February, 1933; Madisonville, July 13, 1888, May 23, 1888, and January 25, 1890; Hammond, December 19, 1875; Covington, October 26, 1889, and November 13, 1889; Bedico River, May 20, 1888, and August 16, 1890; and Clinton, June 9, 1888. Breeding shrikes were collected by E. R. Kalmbach at Gueydan, May 1, July 7, and August 7, 1925; by E. G. Wright at Avery Island, May 9, 1930; and Chenier au Tigre, May 23, 1930; and by S. Ward at Grand Isle on June 26, 1937.

The writer observed this bird at Jennings, Roanoke, Welsh, Iowa (La.), Lake Charles, Sulphur, Vinton, and at the Cameron Farm 14 miles south of Vinton, on June 20, 1933; at Longville, June 19, 1933; at New Iberia, Broussard, Sunset, and Opelousas, June 21, 1933; at Houma, June 22, 1933; at Des Allemands, June 23, 1933; and Dulac in Terrebonne Parish on June 22, 1933. He found this shrike also at Waggaman, June 23, 1933; and near Burrwood in Southwest Pass, Mississippi River Delta, June 7, 1933. Ambrose Daigre noticed it frequently from April 3 to 23, 1937, at Grand Isle. Owing to the lack of specimens from localities along the northern border of the range of this subspecies it is not now possible with absolute accuracy to delineate the northern limits of its range west of the Mississippi River in Louisiana. This part of its distribution as above given is, therefore, to be regarded as tentative, and may be altered by future investigations.

The following winter records apply probably to the Loggerhead Shrike, although there is a possibility that in whole or in part some of these belong under the Migrant Shrike, which in the field is rather difficult to distinguish

from the southern bird. The writer saw shrikes apparently of the present race at the Florence Club, 16 miles south of Gueydan on December 29, 1932; on the Rainey Wild Life Sanctuary, January 22 and 23, 1928; on the lower Vermilion River, January 22, 1928; Avoca Island, January 27, 1932; at Calcasieu Lake, December 30 and 31, 1932; on Black Bayou in southwestern Cameron Parish, northwest of the Orange-Cameron Land Company's club house, January 27, 1928; and near the Gulf of Mexico, south of the same club house, January 24, 1928; on Little Wax Bayou, January 28, 1932; Grand Chenier, December 30 and 31, 1932; near Buras, December 16, 1932; and at the Delta Duck Club on Octave Pass, Mississippi River Delta, January 19, 1928. A. H. Howell noted shrikes at Hackley, February 20 to 24, 1912, which were also probably of this subspecies.

MIGRANT SHRIKE

Lanius ludovicianus migrans Palmer

This bird is very similar to the Loggerhead Shrike in both appearance and habits. It is paler above and somewhat larger, but difficult to separate in the field.

The Migrant Shrike is a fairly common permanent resident in northern and central Louisiana, excepting probably the eastern border of the State in the Mississippi River valley; and is recorded north to Prairie Mer Rouge, Monroe, Ruston, Bienville, and Belcher; west to Foster (five miles east of Shreveport), Shreveport, Taylortown, Mansfield, Logansport, Natchitoches, Hagewood, and De Ridder (probably this race); south to De Ridder and Lecompte; and east to Alexandria, Pollock, Clarks, Richland Parish, and Rayville. It is also a winter resident, from October 26 to March 9, in southern Louisiana, south to Chenier au Tigre, Lobdell, Pecan Grove in Saint Charles Parish, Marrero, New Orleans, and Plaquemines Parish.

The writer has examined specimens of this subspecies from Belcher, February 4, 1908; Foster, January 27 and 29, 1908; Mansfield, January 23 and 25, 1908; Natchi-

toches, January 16, 20, and 21, 1908; Lecompte, January 15, 1908; and Alexandria, January 9, 1908, all collected by A. H. Howell; Ruston, March 10, 1932, George H. Lowery, Jr.; Bienville, April 16, 1932, J. S. Campbell; Pecan Grove in Saint Charles Parish, March 9, 1890, George E. Beyer; Lobdell, January 15, 1903, F. H. Carruth; Chenier au Tigre, December 10 and 15, 1925, January 2, 1934, A. M. Bailey; Marrero, September 26, 1931, in the Museum of the Louisiana Department of Conservation at New Orleans; from New Orleans, November 20 and 26, 1932, December, 1932, and December 18, 1932, in the State Capitol at Baton Rouge; New Orleans, November 25, 1874, and Plaquemines Parish, December, 1862, in the museum of Tulane University. Sufficient specimens, however, are not available from points on the southern and eastern sides of the range of the Migrant Shrike in Louisiana, to determine with accuracy the exact limits of its breeding range in the State. Therefore, the range as above given must be considered tentative until further collections and identification of breeding specimens determine the proper boundaries.

A nest supposedly of this race was sent to the Smithsonian Institution by J. Fairie from Prairie Mer Rouge in 1853. J. S. Campbell regards it as a common permanent resident of all Bienville Parish. This bird was also noted at Logansport by A. H. Howell, August 25 to 27, 1906; and by the writer at Pollock on June 16, 1933; at Rayville, June 17, 1933; at Taylortown and Shreveport, June 18, 1933; and at Hagewood, June 19, 1933. A shrike observed by him at De Ridder on June 19, 1933, was probably a Migrant Shrike, at what is apparently the southern limit of its distribution in the western part of the State.

WHITE-RUMPED SHRIKE

Lanius ludovicianus excubitorides Swainson

This Shrike is of accidental or casual occurrence in southwestern Louisiana.

The only record for the State is a single adult male taken at Grand Chenier, by George H. Lowery, Jr., on January 1, 1938.

Family STURNIDAE

STARLING

Sturnus vulgaris vulgaris Linnaeus

The Starling is an importation from Europe, in so far as its occurrence in the United States is concerned, and is another of the results of the introduction of birds without due consideration of their habits and possibilities. As early as 1872 efforts were made to introduce the Starling into this country at Cincinnati, Ohio, followed by introduction at various other points, including New York City in 1877; but it was not until 1890, from introduction at New York City, that the bird actually became acclimated and began to increase. Since that time it has spread over practically all the eastern half of the United States and southeastern Canada, and is continuing its spread westward.

It is a bird of moderate size, somewhat smaller than the Robin, of blackish color and green metallic reflections, and in fresh plumage with many dots of white. It frequents the vicinity of houses, either in the city or in the country, and is found in almost all other kinds of habitats. Its flight is rather swift, and the outline of the bird not a little resembles an arrowhead, particularly when the bird is sailing. It spreads out all over the country during the day, and at night resorts in great companies to roost usually in the towns, under the eaves of buildings, along cornices, in church steeples, and similar places. Sometimes these roosts comprise immense numbers of individuals. It has a large number of notes, many of them of a peculiar squeaky character, and it imitates the songs and calls of other birds to a large extent. It sings not only in the summer, but at all times of the year, even in the autumn or early winter.

The food of the Starling consists of a great variety of vegetable and animal matter, such as seeds, green garden vegetables, fruit, and various kinds of insects, such as grasshoppers, weevils, cutworms, wasps, and bees, together with spiders and millipeds, snails, and some other invertebrates. Under certain circumstances it does considerable damage to crops, particularly cultivated fruit and garden vegetables.

The Starling nests in holes in trees, bird boxes, or about the crevices and cornices of buildings, haystacks, in dove cotes, or various similar places, and even on the ground or on cliffs. The nest is bulky, constructed commonly of grass, straw, twigs, corn-husks, and the like, and is lined with feathers, leaves, mosses, and similar materials. The five or six eggs are very pale blue, unmarked; and there are often two broods in a year.

Notwithstanding the fact that the Starling may be at times injurious, and troublesome to other birds, it is an interesting inhabitant of the towns and country, a bird much handsomer and much more interesting than the English Sparrow. One of the drawbacks, so far as our native birds are concerned, is the fact that the sorts of places that it desires for its nests are those of birds like the Bluebird, Purple Martin, and others, which are dependent on such nesting sites.

The Starling is a fairly common but local winter resident, from October 30 to April, in most of Louisiana; reported north to Lake Providence, Oak Grove in West Carroll Parish, and Monroe; west to Ringgold in Bienville Parish and Calcasieu Lake; south to Grand Chenier, Chenier au Tigre, Midland, the Rainey Wild Life Sanctuary, Avery Island, Paradis, Westwego, New Orleans, and Lacombe in Saint Tammany Parish; and east to Pearl River and Tallulah. It is also a rare or casual summer resident in southern Louisiana, where single birds were seen by the writer at Convent and Burnside, respectively, on June 14, 1933.

Apparently the first Starling to reach Louisiana was a bird reported by Andrew Allison at the mouth of the Mis-

Mississippi River about 1907, perhaps an individual that had accidentally escaped from a vessel or in some other way had been transported to this region. The next record was of a flock seen at Grand Bay near Hermitage in Pointe Coupee Parish, 25 miles above Baton Rouge, by W. C. Carey.²⁰⁹ E. S. Hopkins collected a specimen at the Jefferson Race Track near New Orleans, January 31, 1926; and other specimens examined are: one obtained at Westwego before 1930, and now in the museum of the Louisiana Department of Conservation at New Orleans; one taken by Winston E. Nolan at Pearl River, November 17, 1932; one by T. D. Burleigh at New Orleans, November 5, 1936; and two others obtained by George H. Lowery, Jr., on the campus of the Louisiana State University at Baton Rouge during the winter of 1932 to 1933. W. W. Battaile writes that he shot specimens on November 30 and December 28, 1933, at Lacombe; and that several hundred were seen there during that winter. George H. Lowery, Jr., reported the appearance of the Starling at Monroe, January 23, 1930, where a specimen was captured, and has noted it in this locality on several occasions since that time. A. M. Bailey found it common at Chenier au Tigre from December 28, 1933, to January 5, 1934, and collected a specimen on January 2, 1934. The writer has observed the species in small flocks of 50 or less at Calcasieu Lake, December 31, 1932; Grand Chenier, December 30 and 31, 1932; Midland, December 29, 1932; and Avery Island on December 28, 1932. T. Strabala noted 30 on December 22, 1931, at Paradis. J. S. Campbell states that the only record for Bienville Parish is at Ringgold, February 25, 1934; also that it first appeared at Oak Grove in West Carroll Parish on December 27, 1933, and was abundant during the winter of 1934. George B. Saunders mentions its rapid increase as a wintering bird on the coastal prairies during 1935 and 1936. Probably it is but a question of time when the Starling will have spread over practically all of Louisiana, as it has now nearly or quite reached the western and eastern boundaries of the State.

²⁰⁹ Bird Lore, Vol. XXIV, No. 2, April, 1922, p. 95.

Family VIREONIDAE

SOUTHERN WHITE-EYED VIREO

Vireo griseus griseus (Boddaert)

Among the common birds of the thickets and the undergrowth of woodlands the Southern White-eyed Vireo in Louisiana occupies a conspicuous place. Its rather loud, energetic song, which has been put into words as 'chick-ty-beaver, lim-ber-stick', is very characteristic, and easily distinguishes this bird from all of the other songsters of the swamps and forests. Sometimes it even interrupts its own vocal performance with attempted imitations of the songs of other birds.

The bird is rather inconspicuously clothed in olive green above, and white below, with yellowish sides and whitish wing-bars, which, like the white eyes, are not discernible except at very close range. It is a bird that keeps much to the undergrowth, and rarely ever ventures out in the open, except for purposes of migration, and its flights, therefore, are rather short. It is one of the birds that always impresses one with its activity. Although it prefers the seclusion of the thickets, it is not difficult to approach, and whenever it is menaced by an intruder shows considerable impatience with the intrusion. It also has considerable curiosity, and inspects not only its surroundings and other animals and birds, but man himself when he ventures into its abode.

The White-eyed Vireo, in common with the other vireos, is one of the important guardians of the forest in so far as its food habits are concerned. It lives largely on various kinds of insects, their larvae, and eggs, such as flies, ants, and small caterpillars, although it feeds somewhat on wild fruit. Since the White-eyed Vireo is numerous in many localities its service in this way must be correspondingly great.

The nest of this bird is a very strongly woven cradle of bark fibers and other vegetable materials, even bits of newspapers, and attached by its upper edge to the forks

of a branch in a bush or low tree, so that the entire structure is pensile. The outside is covered and bound together with bits of spider or insect webs, and forms a very characteristic vireo structure. In it the three or four eggs, marked with a few brown spots, are laid. The young very closely resemble the adults; and are cared for with great solicitude by their parents, even for a time after they leave the nest.

The Southern White-eyed Vireo is a common summer resident, from February 24 to October 15, throughout practically all the State; reported north to Tendam on the Tensas River, Rayville, Monroe, Bienville Parish, and Caddo Parish; west to Caddo Lake, Cross Lake, Shreveport, Mansfield, Logansport, Hagewood, Fort Jesup, Many, Sandel, De Ridder, Longville, Newton, and Toomey; south to Lake Charles, Iowa (La.), Bayou Queue de Tortue north of Gueydan, Avery Island, Vermilion Bay, Houma, Dulac on Grand Caillou Bayou, Bayou La Fourche, and Grand Isle; and east to Diamond, Junior, Carlisle, Belair, The Rigolets, Pearl River, Madisonville, Covington, Hammond, Amite, Clinton, Bains, Simmesport, Trout, Somerset, the Singer Preserve, and Tallulah. It is also a rare winter resident on the Gulf Coast of southern Louisiana, north to Baldwin and New Orleans. It breeds from April to June, and there are records of eggs from May 20 to June 6.

This is the breeding race of the White-eyed Vireo in Louisiana, as is indicated by specimens examined as follows: Iowa (La.), April 7, 1899, taken by Vernon Bailey; Jefferson Parish, March 19, 1898, Andrew Allison; Harahan City, April 22, 1916, H. E. Hubert; New Orleans, April 1, 1917, A. M. Bailey; Morrison, April 24, 1937, Ambrose Daigre; New Orleans, March 24, 1889; Clinton, June 8, 1888; Amite, May 30, 1888; and Louisiana, April 17, without further data. Eggs collected at Grand Coteau, June 3, 1887, are in the United States National Museum.

There are several winter records of the White-eyed Vireo in southern Louisiana that may reasonably be sup-

posed to belong to the present form, although only one specimen has actually been examined, a female from New Orleans, collected, December 14, 1935, by T. D. Burleigh. Mrs. G. L. Baldwin reported it at Baldwin, December 26, 1911; and H. H. Kopman at New Orleans, saw three on January 5, 1895, several on January 26, 1895, one on January 8, 1894, also January 11 and 14, 1897, as well as December 25, 1905.

A. H. Howell found this bird not uncommon at Logansport, August 25 to 27, 1906, and collected specimens on both these dates; and E. R. Kalmbach met with the species at Bayou Queue de Torte north of Gueydan, May 17 and 31, 1925. The writer observed it at Tendal and Rayville, June 17, 1933; at Caddo Lake and Cross Lake, on the following day; at Hagewood, Fort Jesup, Many, Sandel, De Ridder, Longville, and Newton, June 19, 1933; at Toomey and Lake Charles, June 20, 1933. H. L. Ballowe reported it from Diamond, April 2, 1902; and H. H. Kopman, from Carlisle, October 4 and 5, 1917; from Junior, August 4 and 5, 1917; and from Caernovan, April 16 and 18, 1918. Ned Hollister found it common and in full song at Belair from March 25 to April 8, 1904; and Edward Butler reported its arrival at Bains, February 24, 1922, in which locality it of course breeds. George H. Lowery, Jr., considers it a common summer resident at Baton Rouge, where he noted its arrival on March 21, 1933, and March 27, 1934. A specimen was taken at The Rigolets, by Henry W. Henshaw, March 27, 1870. The writer found this vireo common throughout most of southern Louisiana, and among other localities observed it at Pearl River, June 27, 1933; at Houma and Raceland, June 23, 1933; at Dulac in Terrebonne Parish, June 22, 1933; on Bayou Dupont and Little Barataria Bayou in Jefferson Parish, June 10, 1933; at Alexandria, in the Little River valley near White Sulphur Springs in La Salle Parish, at Trout, and Somerset, June 16, 1933. In the heavy bottomland forests along the Tensas River on the Singer Preserve in Madison Parish 13 miles southwest of Tallulah, the Southern White-eyed Vireo was astonishingly numer-

ous on June 16 and 17, 1933. In Bienville Parish, according to J. S. Campbell it arrives in spring about March 24 and soon begins nesting.

NORTHERN WHITE-EYED VIREO

Vireo griseus noveboracensis (Gmelin)

The Northern White-eyed Vireo is a winter resident in southeastern Louisiana, from September 16 to April 6, from Grand Isle and Belair, north to New Orleans and Marrero. It is probably not as uncommon as the records indicate, since it is not identifiable subspecifically in the field.

Specimens have been examined from Belair, March 30, 1904, and April 5, 1904, collected by Ned Hollister; New Orleans, April 21, 1918, by A. M. Bailey, and May 4, 1935, by T. D. Burleigh; Buras, January 30, 1896, by George K. Cherrie; Mandeville, May 1, 1889, by C. S. Galbraith; Grand Isle, April 7, 1937, and April 6, 1931; Marrero, January, 1932, and Metairie, April 28, 1937, both in the museum of the Louisiana Department of Conservation at New Orleans; from New Orleans, September 16, 1873, in the museum of Tulane University; and also from New Orleans, February, 1933, and December 12 and 13, 1932, in the museum of the Louisiana Department of Agriculture in the State Capitol Building at Baton Rouge.

The White-eyed Vireos occupying the northeastern United States from Arkansas and North Carolina northward are distinguished from those breeding in the South Atlantic and Gulf States from South Carolina to Louisiana, in having the flanks and sides more deeply golden yellow. This has already been pointed out by W. E. Clyde Todd,²¹⁰ although in so doing he failed to recognize the bird from southern Florida, *Vireo griseus maynardi*, which is still a different form. Since *Vireo griseus* was originally described from specimens taken in Louisiana, and better fits the southern race, the name *Vireo griseus griseus* should continue to apply that bird; and the present race, which is

²¹⁰ Wilson Bulletin, Vol. XXXVIII, No. 4, December, 1926, pp. 222-223.

merely a winter resident or transient in the southern United States should be called *Vireo griseus noveboracensis*.²¹¹

BELL VIREO

Vireo bellii bellii Audubon

The Bell Vireo is a very rare and local summer resident in Louisiana.

There are only four records for the State. A single individual was observed at Houma by the writer on June 23, 1933. One was reported from Monroe in northern Louisiana by George H. Lowery, Jr., March 31, 1930, and one there on April 10, 1932. The same observer saw another at Baton Rouge on April 24, 1933.

YELLOW-THROATED VIREO

Lanivireo flavifrons (Vieillot)²¹²

This bird, while not so conspicuous or so well known as the Red-eyed Vireo, is still an interesting inhabitant of Louisiana. It is bright olive green above, with a conspicuously yellow throat and whitish wing-bars, by which characters it may readily be distinguished from the other vireos. Like the Red-eyed Vireo it inhabits both the forests and the more open country, wherever there are trees, coming not infrequently into the towns and about country dwellings.

It is rather more deliberate in its movements than some of its relatives, and its most conspicuous characteristic is its rich musical voice. Its song is louder and more deliberate than that of the Red-eyed Vireo, although somewhat similar in general character. This bird's song has been interpreted by some as 'dearie, come here'. Likewise its scolding note is much louder and harsher than that of the Red-eyed Vireo. It does not sing so late in the year and its song is not nearly so persistent as that of its red-eyed cousin.

²¹¹ *Muscicapa noveboracensis* Gmelin. Syst. Nat., Vol. I, Part 2, April 20, 1789 p. 947.

²¹² *Vireo flavifrons* of the 1931 A. O. U. Check-List.

In food habits this bird is similar to the other vireos. It lives chiefly on insects, such as moths and caterpillars, including hairy kinds, mosquitoes, flies, weevils, beetles, grasshoppers, and various others. To some extent it feeds also on wild berries.

This bird places its nest in trees or bushes, often at a considerable height from the ground. It has perhaps the most beautiful nest of any of the species of our vireos. This is composed of bark strips, grasses, and similar materials, closely woven and adorned on the outside with lichens and cocoons of insects, bound together by spider and insect webs. It is attached to a fork of a horizontal branch and is pensive like the nests of other vireos. The eggs are from three to five in number, white, more or less speckled with reddish and dark brown. The male and female both assist in the incubation ceremonies and in the care of the young, and are often easily approached when on the nest. Probably only one brood is reared.

The Yellow-throated Vireo is a fairly common summer resident, from March 2 to October 23, in the greater part of Louisiana excepting the marsh region of the Gulf Coast; reported north to Monroe, Bienville Parish, and Shreveport; west to Frierson, Gayle, Mansfield, Logansport, Natchitoches, Hagewood, and Toomey; south to Toomey, Baldwin, and Diamond; and east to New Orleans, The Rigolets, Mandeville, Madisonville, Covington, Ponchatoula, Hammond, Amite, Saint Francisville, Bains, Jena, Thomas-town, and the Singer Preserve in Madison Parish. It breeds from April to June.

The writer has seen specimens from Baton Rouge, May 24, 1936, collected by T. D. Burleigh; New Orleans, April 4, 1896, August 4, 1937, September 10, 1935, October 17, 1935, and May 16, 1891; Lewisburg, September 1, 1873; Mandeville, April 5, 1886, Madisonville, July 4, 1888; Grand Isle, April 6, 1931, April 8, 9, and 13, 1937, and April 16, 1928. A bird that struck the Southwest Reef Lighthouse at the entrance to Atchafalaya Bay, October 23, 1908, was reported by S. Jones. A. H. Howell obtained a single in-

dividual at Mansfield, May 2, 1907, and noted the species singing at Logansport, August 25 to 27, 1906. H. H. Kopman reported its arrival at Shreveport, April 8, 1928; and we detected it at Natchitoches and at Hagewood, June 19, 1933; also at Toomey, June 20, 1933. Mrs. G. L. Baldwin noted its arrival at Baldwin, April 6, 1910; and H. L. Ballowe on April 28, 1902, at Diamond, where the bird is a summer resident. A specimen of this species was taken by Henry W. Henshaw at The Rigolets, March 2, 1870; and H. H. Kopman found it at Amite, March 27, 1918; Hammond, April 26, 1918; at Ponchatoula, March 27, 1918; Covington, March 25, 1900; and at Thomastown, common from July 13 to 28, 1896.

George E. Beyer reported it breeding in 1891 at Madisonville, though rare; and Edward Butler states that it was breeding at Saint Francisville in 1915, and at Bains in 1916. H. H. Kopman saw the species twice during June, 1912, and on May 29, 1913, at New Orleans, and states that it evidently nests there occasionally. The writer found it at Lottie, June 15, 1933; also in the Little River valley near White Sulphur Springs in La Salle Parish and at Jena on June 16, 1933. It was very common in the heavy bottom-land forests of the Singer Preserve along the Tensas River 13 miles southwest of Tallulah on June 16 and 17, 1933. J. S. Campbell says that it is a summer resident in Bienville Parish from March 24 to October 15.

BLUE-HEADED VIREO

Lanivireo solitarius solitarius (Wilson)²¹³

The Blue-headed Vireo, a species of northern breeding range, is an uncommon winter resident, from August 1 to April 8, in Louisiana, from Chenier au Tigre, Avery Island, New Iberia, Grand Isle, and Diamond, north to Mandeville, New Orleans, Marrero, Paradis, Oneida, Lobdell, Le-compte, and Bienville Parish.

The writer has examined specimens from New Orleans, taken on October 29, 1935, by T. D. Burleigh; from Grand

²¹³ *Vireo solitarius solitarius* of the 1931 A. O. U. Check-List.

Isle, April 6, 1931; Marrero, February 5, 1933; Mandeville, December 10, 1877, collected by Gustave Kohn; and Le-compte, January 11, 1908, obtained by A. H. Howell. A. M. Bailey secured one at Chenier au Tigre on December 12, 1925; Ambrose Daigre one at Grand Isle on April 8, 1936, and George K. Cherrie on both February 1 and 4, at Buras. H. H. Kopman found this species at New Orleans, February 22, 1897, and January 12 and 26, 1895; and at Oneida, between December 23, 1893, and January 1, 1894. George E. Beyer observed it also at New Orleans on August 1 and December 27, 1893; George H. Lowery, Jr., at Baton Rouge, November 19, 1933; and H. L. Ballowe at Diamond, August 3, 1902. J. S. Campbell reported it from Bienville Parish during the winters of 1931, 1932, 1933, and in January and February, 1934. J. J. Audubon, during his Louisiana explorations, observed a pair near Donaldsonville on January 1, 1821.

RED-EYED VIREO

Vireosylva olivacea (Linnaeus)²¹⁴

This vireo is one of the best known of its family, as it has a wide range not only in Louisiana but in North America. It is similar in color to the White-eyed Vireo but has no wing-bars and has a dark line above the eye above a whitish line, by which characters it may be distinguished from most other small birds. The red eye, which has given the bird its name, is not conspicuous except near at hand.

The Red-eyed Vireo is a bird more of the forests and wooded areas than is the White-eyed Vireo, and does not so much frequent thickets, although it is found almost everywhere, even in cultivated areas, where there are trees or bushes. It is in many places, like the White-eyed Vireo, very numerous, although it does not assemble into what might be termed flocks. It is a rather active bird and seems to be continuously on the search for insects among the foliage.

²¹⁴ *Vireo olivaceus* of the 1931 A. O. U. Check-List.

Its call note is a rather harsh, somewhat long drawn out 'creee' or 'wheree', but its song is rather musical, of few notes, and of ordinary vireo character, very different, however, from that of the White-eyed Vireo. It is one of the most persistent singers of all our birds, not only at all hours of the day, and often into late summer. This habit of continuous song has given it the name 'preacher'.

Like other vireos its food habits are beneficial, since it subsists largely on various kinds of insects, such as caterpillars and adults of moths, such beetles as weevils and leaf beetles, ants, wasps, grasshoppers, and flies, many of these of injurious species. The vegetable part of its food consists chiefly of such wild fruits as blueberries, cherries, raspberries, and of seeds.

Its nest is placed usually in a bush or low tree, and is a pensile, compactly woven structure, attached to the fork of a branch. It is composed chiefly of fibers of bark, and weed-stalks, lined with similar bark fibers or horse-hair, and covered on the outside with bits of bark and insect cocoons, bound together with insect and spider webs. The eggs, usually three or four, are white, speckled mostly at the larger end with dark brown. Both the male and female assist in the incubation, which lasts from 12 to 14 days; and sometimes there are two broods. The young, as in other vireos, are very similar to the adults.

The Red-eyed Vireo is a common summer resident, from March 15 to October 20, throughout the greater part of Louisiana, except the immediate region of the Gulf Coast; reported north to Holly Ridge, Mer Rouge, Start, Crew Lake, Monroe, and Caddo Parish; west to Caddo Lake, Cross Lake, Lake Hayes (ten miles west of Shreveport), Mansfield, Logansport, Natchitoches, Many, Florien, Gandy, Sandel, De Ridder, Longville, and Toomey; south to Lake Charles, Iowa (La.), New Iberia, Raceland, and Diamond; and east to Junior, Westwego, New Orleans, The Rigolets, Pearl River, Mandeville, Madisonville, Bedico Swamp, Hammond, Clinton, Saint Francisville, Bains, Simmesport, Trout, Jena, Somerset, Quimby, Thomastown, and the Singer Preserve in Madison

Parish. It is a transient in the Gulf Coast region of southern Louisiana, south to Calcasieu Pass, Chenier au Tigre, Vermilion Bay, Southwest Reef, Grand Isle, and Chandeleur Island. It breeds in April and May.

A specimen from Iowa (La.) was collected on April 8, 1899, by Vernon Bailey; others from New Orleans were obtained, April 27, 1935, and August 29, 1935, by T. D. Burleigh, and April 28, 1918, by S. C. Arthur. Specimens in the museum of the Louisiana Department of Conservation at New Orleans were taken at Grand Isle, April 6, 1931, April 7, 1933, April 7, 11, and 21, 1936; April 8 and 24, 1937. Others seen in the museum of Tulane University were obtained at Bedico Swamp in Tangipahoa Parish, August 15 and 22, 1890; Amite, May 30 and 31, 1888; Mandeville, March 19, 1871; and Thomastown, July 18, 1896. The species has been taken also at Mansfield, April 29 and May 2, 1907, and at Logansport, August 27, 1906, by A. H. Howell; in Cameron Parish, May 15, 1919, by E. R. Kalmbach; at Harvey, September 9, 1924, and Grand Isle April 6, 1925, by E. S. Hopkins; Madisonville on May 30, 1886, by A. K. Fisher; at New Orleans, May 19, 1886, by A. K. Fisher, and August 14, 1897, by Andrew Allison; at Calcasieu Pass, in the spring of 1854, by G. Würdemann; at Chenier au Tigre, May 23, 1930, by E. G. Wright; at The Rigolets, April 3, 1870, by Henry W. Henshaw; and on Chandeleur Island, April 13, 1902, by T. Hansen. Eggs taken in 1895 at New Orleans are in the museum of Tulane University.

Vernon Bailey found this vireo common all through the woodlands at Mer Rouge, June 2 to 7, 1892. H. H. Kopman saw it at New Iberia on March 27, 1902, where it is a common summer resident; at Oaklawn near Lacombe on August 17, 1917; at Junior on August 4 and 5, 1917; and at Simmesport, August 31 to September 2, 1917. George H. Lowery, Jr., considers it a common summer resident at Baton Rouge, arriving on March 22, 1933, and March 24, 1934. George E. Beyer reported it in 1891 as breeding at Clinton and Madisonville; and Edward Butler stated that

it was breeding at Saint Francisville in 1915, and at Bains in 1916, and that in 1922 it arrived at the latter locality on March 15. H. L. Ballowe noted it at Diamond on April 6 and April 26, 1902. J. S. Campbell considers it a common summer resident in Bienville Parish, arriving late in March, and soon beginning to nest. The writer found it unusually numerous in the heavy bottomland forest of the Singer Preserve along the Tensas River, 13 miles southwest of Tallulah, June 16 and 17, 1933. He observed the species also at Quimby, Somerset, Jena, and Trout, June 16, 1933; at Tallulah, Holly Ridge, Start, and Crew Lake on June 17, 1933; at Cross Lake and Caddo Lake, June 18, 1933; at Natchitoches, Florian, Many, Gandy, Sandel, Longville, and De Ridder, June 19, 1933; at Lake Charles and Toomey, June 20, 1933; also at Westwego and Raceland, June 23, 1933; and at Pearl River, June 27, 1933. It was very common in the cypress swamps about Lottie on June 15, 1933; and he met with it also in the Little River valley near White Sulphur Springs in La Salle Parish, June 16, 1933; at Alexandria on the same day; at Port Barre and Krotz Springs, June 21, 1933; and at Luling, June 23, 1933.

PHILADELPHIA VIREO

Vireosylva philadelphica Cassin²¹⁵

The Philadelphia Vireo is a rare transient, though apparently sometimes common locally, from late July to October 31, also reported in April, in central and southeastern Louisiana, east to Covington, and west to Saint James Parish and Alexandria. The April record is by George E. Beyer who, however, gives no further date, and there are no other definite data for the occurrence of this species during the spring; neither is it recorded from central nor northern Louisiana.

The available records are few. The first definite occurrence is that of a specimen taken at Hester in Saint James Parish, August 2, 1893; and George E. Beyer

²¹⁵ *Vireo philadelphicus* of the 1981 A. O. U. Check-List.

recorded it also at New Orleans, October 10, 1896.²¹⁶ Two specimens, obtained by Ambrose Daigre at Alexandria on October 2, 1933, are in the museum in the State Capitol at Baton Rouge. T. D. Burleigh collected three at New Orleans, October 17, 29, and 31, 1935. H. H. Kopman reported a few individuals at Covington late in July, 1893; and the species as abundant on August 2, 1893, in the same locality.²¹⁷ H. H. Kopman reported ten of these vireos seen on October 7, 1896, in the suburbs of New Orleans. George H. Lowery, Jr., found this vireo rather common in the College Town Swamp at Baton Rouge on October 7, 1933.

EASTERN WARBLING VIREO

Vireosylva gilva gilva (Vieillot)²¹⁸

The Eastern Warbling Vireo is a rare summer resident, from March 4 to September 13, throughout most of Louisiana, excepting parts of the Gulf Coast in the southern part of the State; reported north to the Ouachita River in Ouachita Parish, Monroe, Bienville Parish, Ruston, and Shreveport; west to Shreveport, Natchitoches, and Calcasieu Pass; south to Calcasieu Pass, Roanoke, Grand Coteau, Melville, Houma, and La Place; and east to New Orleans, Baton Rouge, Lobdell, Bayou Sara, Saint Francisville, Newellton, and Thomastown. It is a transient, from March to October 23, in most of the Gulf Coast region of the State, south to Chenier au Tigre and Southwest Reef at the mouth of Atchafalaya Bay. It breeds chiefly in May and June, and there is record of eggs on June 1.

A. M. Bailey recorded it at Chenier au Tigre on March 4, 1918; and S. Jones reported a bird that struck the Southwest Reef Lighthouse on October 23, 1908; H. H. Kopman reported its arrival at Shreveport, April 15, 1929; and the writer found it at Natchitoches, June 19, 1933. Eggs and nests, taken at Calcasieu Pass in 1854, were sent to the Smithsonian Institution by G. Würdemann; and there are also eggs in the U. S. National Museum, taken at Grand

²¹⁶ Proc. La. Soc. Naturalists, for 1897-1899 (1900), p. 110.

²¹⁷ The Auk, Vol. XXI, No. 1, January, 1904, p. 49.

²¹⁸ *Vireo gilvus gilvus* of the 1931 A. O. U. Check-List.

Coteau, June 1, 1887. H. H. Kopman noted it singing at Melville, between August 29 and September 3, 1917; saw it at La Place on April 2, 1918; and gives it as a summer resident at New Orleans, arriving in 1925 on April 9. Vernon Bailey found it common and breeding at Houma, May 4 to 16, 1892; and C. W. Beckham reported it at Bayou Sara, April 15, 1882. George H. Lowery, Jr., considers it a rare summer resident at Baton Rouge, where it arrived on April 26, 1935, and where he observed it May 29 to June 15, 1937. Edward Butler noted it breeding at Saint Francisville in 1915; and Andrew Allison saw it at Lobdell, April 9, 10, and 26, 1903. At Thomastown, H. H. Kopman noticed several in willows about a dwelling between July 13 and 28, 1896. The writer observed it at Newellton, June 16, 1933; and at Roanoke on June 20, 1933. J. S. Campbell considers it a common summer resident in the bottomland areas of Bienville Parish.

Family COMPSOTHTYPIDAE

BLACK-AND-WHITE WARBLER

Mniotilta varia (Linnaeus)

The Black-and-White Warbler is not so common in Louisiana as a number of the other members of its family, but is well worthy of particular notice. It is distinctive in appearance, since its black and white striped upper parts and white lower parts, also more or less black streaked, make it readily identifiable in life; and its habit of creeping about the branches and trunks of the trees very much like a nuthatch, but apparently not so skillfully, distinguishes it almost at a glance from any other of our warblers. It lives in all kinds of woodlands, preferably the deciduous forests, but it visits also cultivated areas, such as orchards and tree-ornamented lawns. It is rarely ever found away from trees. While not itself gregarious, it frequently accompanies groups of other birds like nuthatches, creepers, and other warblers, as they drift through the forest.

Its call note is a rather faint lisping sound, and its song, though somewhat louder, is still not audible to any great

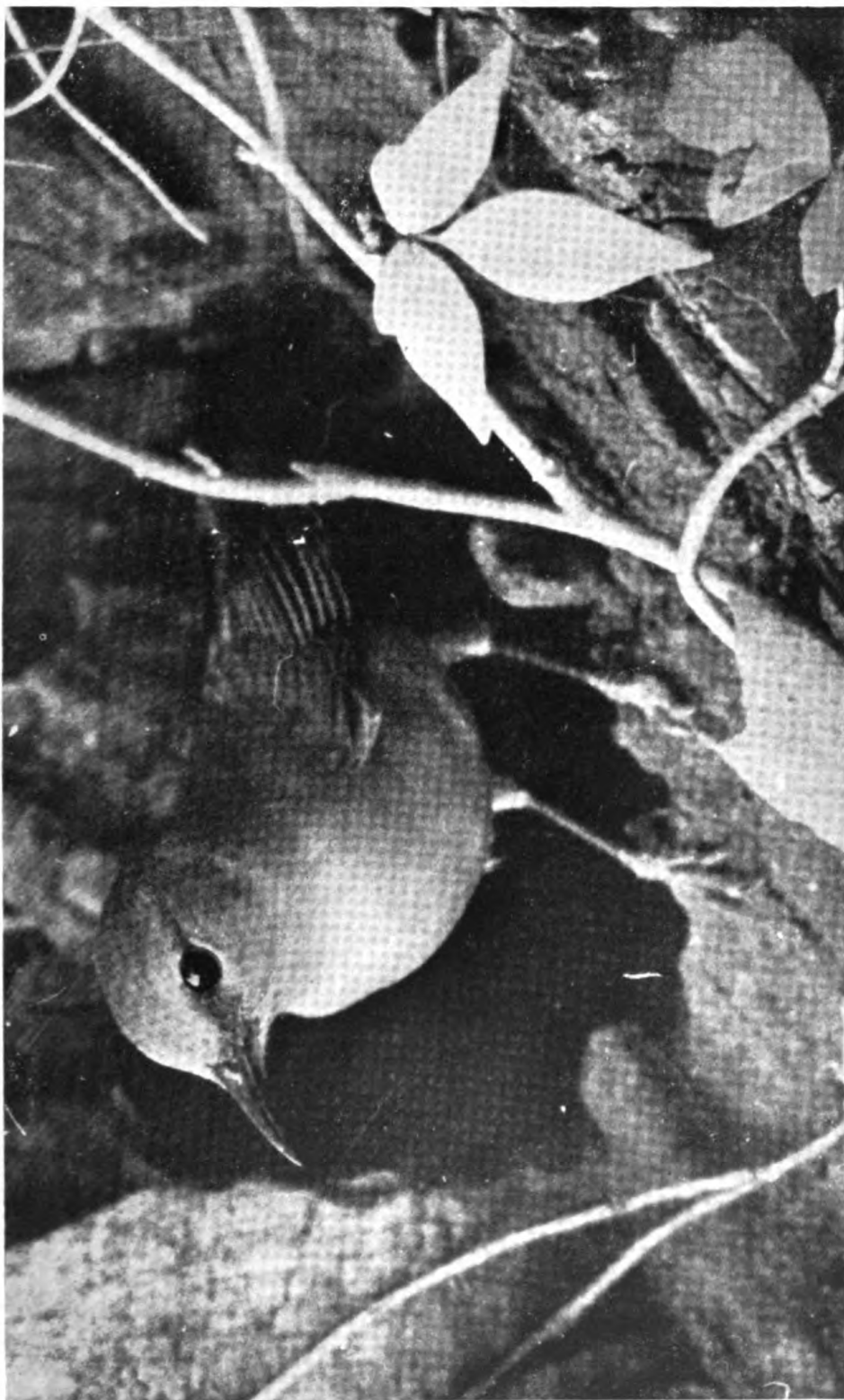
distance, being a series of monotonous, lisping notes, several times repeated.

The food of the Black-and-White Warbler consists very largely of insects, many of them injurious to trees, such as scale insects, plant lice, caterpillars, both hairless and hairy, including the canker worm, the brown-tailed gypsy moth, and tent caterpillar, and various kinds of beetles, such as curculios and wood-boring larvae, together with the eggs of insects.

This pretty warbler is one that builds its nest on the ground, in a depression which it lines with considerable material of such character as grasses, mosses, leaves, and rootlets, with an inner lining of plant down, finer grasses, and similar materials. Occasionally the nest is somewhat roofed over. The eggs are from four to five, white, with small spots of various shades of brown and lavender. So far as is known the female does most of the work of constructing the nest, although the male aids in taking care of the young. It is difficult sometimes to study the young in the nest because they seem to dislike attention from any but their parents, and will attempt to escape from an intruder even when they are only partly grown. Both the adults are attentive parents and take excellent care of their young.

The Black-and-White Warbler is a rare summer resident, from March 12 to October, in northern and southeastern Louisiana, from Monroe, Bienville Parish, and Mansfield, southeast to Bayou Sara, West Feliciana Parish, Bedico Swamp, Folsom, Madisonville, and Oaklawn near Lacombe. It is also a spring and autumn transient, from March 12 to May 9, and from July 21 to October 25, throughout most of the remaining portions of the State, from New Orleans, Jefferson Parish, and Grand Isle, to Iowa (La.). It breeds from April to June, and there is record of eggs on April 23.

Specimens examined from New Orleans were collected by T. D. Burleigh on July 31, 1935, and by A. M. Bailey on April 25, 1918. Others in the museum of Tulane Uni-



PROTHONOTARY WARBLER (*Protonotaria citrea*).
Wakulla Spring, Fla., May 12, 1934.
(Photograph by A. M. Bailey and F. R. Dickinson.)

versity are from Bedico River, August 11, 13, and 18, 1890, July 16, 18, and 22, 1888, August 13, 1890, and July 31, 1890; Bedico Swamp in Tangipahoa Parish, August 21, 1890; Lake Catherine, April 9, 1884; Jefferson Parish, April 10, 1894; and Grand Isle, September, 1900. Other specimens from Grand Isle, taken, May 9, 1931, April 9, 1936, and April 7, 1937, are in the museum of the Louisiana Department of Conservation at New Orleans; and at the State Capitol at Baton Rouge, collected on May 4, 1933. It was obtained also in Jefferson Parish by Andrew Allison, April 8, 1898; at Grand Isle, April 16, 1937, by T. D. Burleigh, April 8 and 12, 1937, and April 7, 1936, by George H. Lowery, Jr.; at Marrero on April 24, 1937, by Winston E. Nolan; and by A. H. Howell at Mansfield, April 30 and May 2, 1907. C. W. Beckham found eggs at Bayou Sara, April 23, 1887.²¹⁰ George H. Lowery, Jr., recorded it from near Monroe, March 22, 1931; H. H. Kopman saw it at Folsom, March 12, 1923; and at Oaklawn near Lacombe, common on August 17, 1917. He noted its presence also at New Orleans, October 25, 1914. George E. Beyer reported it in 1891 as breeding at Madisonville; and Robert Butler in 1933 said that it bred in West Feliciana Parish. Vernon Bailey saw a few individuals at Iowa (La), April 6 to 9, 1899. J. S. Campbell regards the Black-and-White Warbler as a common transient but a rare summer resident in Bienville Parish, from late March to October.

PROTHONOTARY WARBLER

Protonotaria citrea (Boddaert)

The Prothonotary Warbler is one of the most characteristic inhabitants of the heavily wooded swamps of Louisiana. It is in some places rather numerous and conspicuous, and its beautiful yellow plumage set off by its yellowish olive green back and bluish gray wings, without wing-bars, makes it easily distinguishable at sight.

It is found in the forests along streams and in wooded swamps, wherever there are sufficient thickets for its con-

²¹⁰ The Auk, Vol. IV, No. 4, October, 1887, p. 301.

cealment, although sometimes it ventures into more open woodlands. Much of the time it remains near the ground, or on it, although at times it mounts to the highest parts of the trees. Even in migration it does not frequent the upland forests as much as many of the other warblers.

Its ordinary call note resembles rather closely that of the Louisiana Waterthrush, but its song is a rather simple ditty of a few notes, usually on the same key and usually loud enough to carry for some distance.

The food of this bird is made up of such insects as bees, flies, ants, and their larvae, and, exceptionally, spiders and snails.

It nests usually in swampy woodlands or bushy swamps, where there are decayed stumps which, strangely for a warbler, it uses for this purpose, placing its nest in hollows in stubs or in trunks of trees, often making use of a woodpecker's or chickadee's hole. Seldom is the nest far from the ground. Notwithstanding this bird's fondness for swamps it occasionally breeds even in the vicinity of houses. In the cavity selected for the nest are placed grass and straw, with strips of bark, sometimes leaves and lichens, the inner lining of the nest being of finer similar materials. The eggs are usually about six in number, of a creamy white or pale buff, and densely spotted with chestnut or purplish. The young when full grown closely resemble the adult.

The Prothonotary Warbler is a common summer resident, from March 10 to October 15, in nearly all parts of Louisiana, wherever there are suitable bottomlands and marshy woods; reported north to Tallulah, Monroe, Bienville, and Caddo Parish; west to Caddo Lake, Natchitoches, and Lake Charles; south to Lake Charles, New Iberia, Rainey Wild Life Sanctuary, Saint Martinville, Houma, Raceland, Little Barataria Bayou, Bayou Barataria, Bayou Dupont, Dupres Canal, Grand Isle, Chateau Canard on Main Pass in the Mississippi River Delta; and east to Diamond, Belair, Jefferson Parish, New Orleans, Lake Pontchartrain, Rigolets, Mandeville, Madisonville, Ponchatoula, Hammond,

Clinton, Bains, Simmesport, Jena, Frogmore, Newellton, four miles north of Quimby, Thomastown, and the Singer Preserve in Madison Parish. It breeds chiefly in April and May.

Specimens of this bird have been examined from Belair, taken on March 30, 1904, April 1 and 2, 1904, by Ned Hollister; New Orleans, June 26, 1935, July 4, 1935, and September 18, 1935, by T. D. Burleigh; in the museum of Tulane University from Mandeville, July, 1859; and in the museum of the Department of Conservation at New Orleans from Grand Isle, April 10, 1931, also by Ambrose Daigre on April 5, 1937; and by J. Daigre on April 15, 1937. It was taken also in Jefferson Parish by Andrew Allison, April 10, 1899, and April 1, 1897; at New Orleans by R. W. Shufeldt, July 28, 1883, and by A. M. Bailey, April 9, 1917; Madisonville, May 30, 1886, by A. K. Fisher; Baton Rouge, April 3, 1937, by George H. Lowery, Jr., and at Rigolets, March 27, 1870, and April 26, 1870, by Henry W. Henshaw. There have been sent to the United States Biological Survey, Prothonotary Warblers that had struck the following lighthouses: South Pass Lightship at Port Eads, March 10, 1904, and March 10, 1905; Southwest Pass Lightship, in 1902; and Ship Shoal Lighthouse, southwest of Racoon Point, March 12, 1905.

J. S. Campbell noted the arrival of this species at Bienville, April 10, 1932, and its departure on October 15 of the same year; and found a pair nest building at Pool's Pond near Bienville as early as April 18. He reports it common also in summer along Saline Creek and Black Lake Bayou, both localities in Bienville Parish. H. H. Kopman reported it from Saint Martinville, August 9 to 12, 1917; New Iberia, where it is a summer resident, on March 28, 1902; New Orleans, June 22 to July 9, 1917; at Ponchatoula, March 26, 1918; Hammond, April 26, 1918; and at Simmesport fairly common along Fish Bayou, August 31 to September 2, 1917. H. L. Ballowe reported it from Diamond, April 2, 1902; Edward Butler, from Bains, April 1, 1922; and George E. Beyer in 1891 as a breeding bird at

Clinton. Ned Hollister saw it at Belair, March 30 to April 8, 1904; and Ambrose Daigre at Grand Isle, April 3, 6, 9, and 11, 1936. George H. Lowery, Jr., considers it a common summer resident at Baton Rouge, frequenting the swamps and river bottoms, and noted its arrival on March 19, 1933, and April 6, 1934.

The writer found this species among the most numerous birds in the heavy bottomland forests and thickets along the Tensas River in Madison Parish on the Singer Preserve, 13 miles southwest of Tallulah, June 16 and 17, 1933; and observed it also at Tallulah on the latter of these two dates. H. H. Kopman met with it commonly at Thomastown, July 13 to 28, 1896; and the writer noted it at a point four miles north of Quimby; also at Newellton, Frogmore, Jena, and the Little River valley near White Sulphur Springs in La Salle Parish, June 16, 1933. He observed it at Caddo Lake, June 18, 1933; at Natchitoches, June 19, 1933; and Lake Charles, June 20, 1933. It was exceedingly abundant and in full song in the cypress swamps in the vicinity of Lottie, June 15, 1933, and was here the most numerous of all the small birds. It was observed by him at Krotz Springs, June 21, 1933; at Westwego, Des Allemands, Raceland, and Houma, June 23, 1933. It was present also along Little Barataria Bayou, Bayou Barataria, Bayou Dupont, and Dupres Canal in Jefferson Parish on June 10, 1933. The writer noticed a single male in full song at Chateau Canard, Joseph Leiter's hunting lodge on Main Pass in the Mississippi River Delta, on June 7, 1933.

SWAINSON WARBLER

Limnothlypis swainsonii (Audubon)

The Swainson Warbler is another of the rare warblers of the United States. It, like the Bachman Warbler, has an interesting history, having been discovered also by Doctor Bachman near Charleston, South Carolina, and named by Audubon for the distinguished English ornithologist, William Swainson. This was in 1832, and the bird remained almost unheard of for more than 50 years; but

since that time it has gradually become better known, although in few places has it been found common, and in recent years has been apparently decreasing in numbers.

It is a bird of inconspicuous coloration, being plain olive brown above and yellowish white below. It lives almost entirely in the swamps and thickets of the humid bottomlands, and only occasionally comes into more open places such as cultivated areas or drier, less dense, woodlands. Here about the margins of extensive swamps, or in tangled thickets, patches of cane or aquatic plants, the Swainson Warbler loves to dwell. It is rather more deliberate in its actions than other swamp and thicket loving warblers, and often remains inactive for considerable periods. It is likewise more frequently on the ground than a good many of the other warblers, in which places it often seeks its food.

One of the most remarkable features of the bird is its song, which is loud and resonant, and in many respects much resembles that of the Waterthrush, in fact so much so that it has been more than once mistaken for that bird.

The nest of the Swainson Warbler is usually in bushes, vines, or canes, and usually near water, though sometimes on even dry land. It is a very bulky structure of various kinds of leaves, lined with moss or pine needles. It is usually but a few feet above the ground. The three to four eggs are white or bluish white, entirely without markings.

The Swainson Warbler is a rare summer resident, from March 30 to July, and probably later, in eastern Louisiana; recorded north to Amite, Bayou Sara, the Singer Preserve in Madison Parish, and Bienville Parish; west to Jena, Bayou Sara, and Jefferson Parish opposite New Orleans; south to New Orleans; and east to Lake Pontchartrain and Mandeville.

George H. Lowery, Jr., recorded the Swainson Warbler as a fairly common summer resident in northern Louisiana, but without indication of locality;²²⁰ but J. S. Campbell has

²²⁰ Bull. La. Poly. Inst., Vol. XXIX, No. 4, November, 1931, p. 40.

found it a rare summer resident along Saline Creek and Black Lake Bayou in Bienville Parish, and he noticed it apparently nesting near Bienville during the spring of 1933. The writer detected it in song in the bottomland along the Tensas River in the Singer Preserve, 13 miles southwest of Tallulah, June 17, 1933; and also in swamp land along a highway near Jena, June 16, 1933. According to Mr. Lowery it is a fairly common summer resident in the cane brakes of the Baton Rouge region; and he found a nest containing young on June 16, 1932, at the edge of the College Town Swamp at Baton Rouge. At Bayou Sara C. W. Beckham said that it arrived on April 8, 1887, was common there, and that many specimens were taken by him. A. M. Bailey found the species not uncommon at Mandeville in July, 1916, and mentions specimens collected at that locality. H. H. Kopman saw it on April 1, 1904, in Jefferson Parish opposite New Orleans, where A. B. Blakemore had found it some years previously on April 11, 1896. H. H. Kopman noted it at New Orleans on March 30 and April 14, 1905, April 10 and 13, 1899, April 8, 1898, and April 19 and 22, 1911. Andrew Allison reported it also at New Orleans on April 1, 1904. C. S. Galbraith, who collected a great number of these birds in March and April, 1886, on Lake Pontchartrain, obtained only three in March, 1888, and two on April 8, 1889, in the same locality. A specimen in the museum of Tulane University was collected at New Orleans on April 11, 1893; and others in the Biological Survey were taken by T. D. Burleigh at New Orleans on April 17 and May 1, 1935.

WORM-EATING WARBLER

Helminthos vermivorus (Gmelin)

The Worm-eating Warbler is a rare spring and autumn transient, from April 3 to April 30, and from August 9 to September 30, chiefly in southeastern Louisiana, but recorded east to Grand Isle, Jefferson Parish, New Orleans, Lake Pontchartrain, Rigolets, Mandeville, Covington, Lobdell, and Monroe; west to Iowa (La.), and Bienville Parish.

It is reported to breed in northern Louisiana, but the writer has been able to find no definite record.

A specimen in the United States Biological Survey was collected by T. D. Burleigh at New Orleans on August 28, 1936; another in the State Capitol at Baton Rouge was taken at Grand Isle, April 18, 1933, by Winston E. Nolan; and at the same locality E. S. Hopkins obtained the species on April 30, 1925, April 3 and 16, 1926; Ambrose Daigre on April 7, 1936; and George H. Lowery, Jr., on April 12, 1936. Andrew Allison collected it in Jefferson Parish, April 10, 1899; and Henry W. Henshaw at Rigolets on April 9, 1870. Its spring arrival at New Orleans was chronicled by H. H. Kopman on April 10, 1899; and by Andrew Allison on April 7, 1900. At the same locality George E. Beyer noted it on September 1, 1893, and H. H. Kopman about September 5, 1911; also on April 20 and 21, 1899. At Lobdell, Andrew Allison reported it on April 11, 1903. George H. Lowery, Jr., records it as a fairly common transient at Monroe, where he saw it on April 10, August 9, and September 30, 1932, April 16, 1933, and April 27, 1936. J. S. Campbell considers it a fairly common spring transient in Bienville Parish. A specimen in the museum of Tulane University was collected at Mandeville in September; and one in the Biological Survey collection in the United States National Museum, at Iowa (La.), April 7, 1899, by Vernon Bailey.

GOLDEN-WINGED WARBLER

Vermivora chrysoptera (Linnaeus)

The Golden-winged Warbler is a rare spring and autumn transient, from April 6 to May 10, and from August to September 25, in central and eastern Louisiana, observed chiefly in the southeastern part of the State, and reported from New Orleans, Mandeville, West Feliciana Parish, and Monroe, west to Bienville and near Gueydan.

Edward Butler has reported this species once from West Feliciana Parish; ²²¹ Andrew Allison noted its arrival

²²¹ Bull. La. Dept. Cons., No. 20, December, 1931, p. 493.

at New Orleans, April 23, 1900; and H. H. Kopman, its occurrence on September 21, 1897, and September 25, 1903, at the same locality. There is a specimen in the museum of Tulane University collected in September at Mandeville; Ambrose Daigre obtained another at Grand Isle on April 6, 1936, and George H. Lowery, Jr., one on April 9, 1936. T. D. Burleigh took one at New Orleans, September 20, 1937. Ambrose Daigre also saw this warbler on migration at Grand Isle, April 23, 1936. E. R. Kalmbach saw a single individual in the cypress growth, 5½ miles south of Gueydan, on an unknown date between April 26 and September 28, 1925. George H. Lowery, Jr., gives it as a regular but uncommon migrant at Monroe, where he has noted it from April 27 to May 5. J. S. Campbell reported it from Cox's Crossing near Liberty Hill on May 10, 1931; and from Bienville, May 2, 1934.

BLUE-WINGED WARBLER

Vermivora pinus (Linnaeus)

The Blue-winged Warbler is a rare summer resident in northwestern Louisiana; and a rare spring and autumn transient, from March 22 to April 27, and from the middle of August to October 7, in the remainder of the State, observed chiefly in the southeastern part of Louisiana, from Grand Isle, New Orleans, and Rigolets west to Iowa (La.), Lewisburg, and Monroe. It breeds in May.

The only breeding locality known is Lucky in Bienville Parish, where J. S. Campbell found it nest building on May 3, 1934.

At New Orleans this warbler was reported by H. H. Kopman and Andrew Allison, March 22, 1898, and April 20, 21, and 23, 1899. Henry W. Henshaw collected it at Rigolets, April 9, 1870; and there is a specimen in the museum of Tulane University at New Orleans, obtained at Lewisburg, September 4, 1871. Vernon Bailey observed a few individuals at Iowa (La.), April 6 to 9, 1899, and took a single one there on April 8, 1899. Ambrose Daigre noted one at Grand Isle, on April 9, 1936, and April 9,

1937, where he collected a specimen on April 10, 1936, and George H. Lowery, Jr., one on April 19, 1937. Mr. Lowery also reports the species at Monroe as a fairly common transient in both spring and fall, and recorded it on April 9 and September 14, 1930, April 12 and October 7, 1931, and April 27, 1936.

BACHMAN WARBLER

Vermivora bachmanii (Audubon)

The Bachman Warbler has an interesting history. Discovered near Charleston, South Carolina, by Doctor Bachman, the intimate friend of John James Audubon, it was described by Audubon and named for his friend. For 50 years thereafter the bird was almost unknown, but finally was rediscovered in Louisiana near Lake Pontchartrain by Charles S. Galbraith, who collected a considerable number of individuals in that region. Subsequently it became better known, but it is still one of the rare warblers of this country, and apparently is steadily decreasing in numbers. Its yellow forehead and under surface, black breast and band across the crown, gray hind-neck, and olive green back will distinguish it readily from the other warblers with which it might be confused. It is one of the characteristic swamp warblers, and during the breeding season it lives in the heaviest forests of the bottomlands. During migration, however, it is found in other kinds of forest country, though usually still in the river valleys. Ordinarily it lives in the lower parts of the forest, although during migration it is found even in the higher parts of the trees.

Its song is rather peculiar and somewhat like that of the Prairie Warbler or Chipping Sparrow.

The food of this bird is not very well known, but it undoubtedly consists largely of insects, such as caterpillars and flies.

The nest is usually situated in timbered swamps where there is water. The nest is placed in a low bush or vine not very far from the ground, and is a rather bulky struc-

ture composed of weed-stalks, grasses, and leaves, lined with dark vegetable fibers and fine grasses and weed-stalks. The eggs are usually three to four, white, without markings.

There seems to be no reason why this species should not breed occasionally in Louisiana, although the nest has never been found in this State, but it is to be hoped that it may some day be discovered here.

The Bachman Warbler is a rare spring transient, from February 27 to May 9, in southeastern Louisiana, from Mandeville west to Lobdell and Grand Isle.

Apparently the first record of this species for Louisiana is that by George N. Lawrence, who mentions specimens taken on Lake Pontchartrain during the spring of 1886.²²² Later, specimens collected on March 29, 1887, at Lake Pontchartrain, were recorded by the same ornithologist.²²³ All these were obtained by Charles S. Galbraith, who reported 31 additional individuals shot between March 2 and March 20, 1888, at Lake Pontchartrain, near Mandeville.²²⁴ He collected specimens of this warbler at or near Mandeville also on February 27, March 6, 12, 13, and 14, 1891. Andrew Allison saw one bird at Lobdell, May 9, 1903; and E. S. Hopkins obtained two males at Grand Isle on April 4, 1925. Mr. and Mrs. George H. Lowery, Sr., observed this warbler at Monroe on April 27 and 28, 1936.

TENNESSEE WARBLER

Vermivora peregrina (Wilson)

The Tennessee Warbler is a fairly common spring and fall transient, from March 12 to May 13, and from September 12 to November 17, in eastern and northern Louisiana; reported from Grand Isle, Pilot Town, Chandeleur Island, New Orleans, Saint James Parish, Baton Rouge, Bayou Sara, and Monroe, west to Shreveport and Bienville. It seems to be most frequently observed in the southeastern part of the State.

²²² The Auk, Vol. IV, No. 1, January, 1887, p. 35.

²²³ The Auk, Vol. IV, No. 3, July, 1887, p. 262.

²²⁴ The Auk, Vol. V, No. 3, July, 1888, p. 323.

H. H. Kopman saw it at New Orleans, September 18, 1899, and November 17, 1917, and he noted its arrival there on March 12, 1900. He reported it also from Pilot Town in the Mississippi River Delta, October 13, 1917; and from Shreveport, April 20, 1929, April 30, 1928, and May 13, 1931. Ambrose Daigre observed it at Grand Isle, April 5 and 28, 1936, and May 5, 1936. J. S. Campbell found it at Bienville, April 27 and 28 and September 12, 1932. George H. Lowery, Jr., says that it arrived at Baton Rouge on April 22, 1933, and April 28, 1934. A specimen in the museum of Tulane University was collected at New Orleans in October, 1886; others in the museum of the Louisiana Department of Conservation at New Orleans were taken at Grand Isle, April 22, 1933, April 9 and 20, 1937, and April 9, 1936; and still others in the Biological Survey came from New Orleans, October 17, 1935, and April 12, 1937.

ORANGE-CROWNED WARBLER

Vermivora celata celata (Say)

The Orange-crowned Warbler is a winter resident in Louisiana, generally uncommon but locally fairly common, from November 16 to April 3, though most frequently reported as a transient; from Plaquemines Parish, Lake Pontchartrain, New Orleans, West Baton Rouge Parish, and New Iberia, north to Black Bayou Lake in Ouachita Parish, Monroe, and Bienville Parish.

A specimen in the museum of Tulane University was taken in Plaquemines Parish, February 9, 1862, and one in the State Capitol at Baton Rouge came from Grand Isle, where collected on March 10, 1933, by Winston E. Nolan. Examples in the Biological Survey were obtained at New Orleans, November 16, 1935, December 20, 1935, January 15, 1936, February 9, 1937, December 15, 1936, and March 5 and 31, 1936 by T. D. Burleigh. H. H. Kopman reported it at New Orleans, November 20, 1915, November 22, November 26, and December 15, 1903, December 9, 1917, March 25, 1918, and April 3, 1909; at New Iberia, March

23, 1902; and at New Roads, December 15, 1917. George K. Cherrie obtained specimens at Buras on January 30 and February 1, 1896; and Andrew Allison collected it at Lobdell, January 17, 1902, and observed another in the same locality, January 22, 1902. George H. Lowery, Jr., reported it at Monroe, December 21, 1930, and says that it is found in considerable numbers in that region. He has found it common also at Black Bayou Lake in late November, and near Baton Rouge March 5, 1933. J. S. Campbell says that it is a fairly common winter resident in Bienville Parish.

NASHVILLE WARBLER

Vermivora ruficapilla ruficapilla (Wilson)

The Nashville Warbler is a rare spring transient, from April 2 to May 10, in Louisiana.

There are but three records for the State: that of an individual seen at Monroe by George H. Lowery, Jr., May 10, 1931;²²⁵ another observed by Mr. Lowery and J. S. Campbell at Bienville in Bienville Parish on April 2, 1932; and one seen by J. S. Campbell at Crousen Crossing on Saline Creek six miles south of Bienville on May 4, 1932.

SOUTHERN PARULA WARBLER

Compsothlypis americana americana (Linnaeus)

The Southern Parula Warbler is apparently but a casual visitor in Louisiana. There is but a single record, that of a specimen taken at New Orleans, on April 15, 1935, by Thomas D. Burleigh.

WESTERN PARULA WARBLER

Compsothlypis americana ramalinae Ridgway

Although one of the smallest of our warblers, this bird is one of the best known, perhaps on account of its abundance, its wide distribution, and conspicuous song. It is found almost everywhere in the region, where there are trees or bushes, although it is most characteristic of the forest,

²²⁵ Bull. La. Poly. Inst., Vol. XXIX, No. 4, November, 1931, p. 41.

both deciduous and evergreen. For breeding it prefers the trees where it can find a supply of Spanish moss or of the moss-like lichen called 'old man's beard', which in some places causes the bird to become more or less localized on account of the presence of its favorite vegetation. During migration, however, it occurs almost everywhere.

It is a bird easily distinguishable because of its yellow throat, with an orange patch or black patch, or both, and its blue-gray upper parts with a greenish yellow patch in the middle of the back, white wing-bars and white tail patches; to which may be added as good field characteristics its titmouse or chickadee-like habits in clinging often upside down to the terminal branches of trees or shrubs.

Its song is likewise characteristic, being a rather musical, rising trill, with an abruptly descending termination, in quality rather lisping.

Like most of our warblers, in food habits it is largely insectivorous, its food consisting chiefly of wasps, bees, ants, caterpillars, weevils, other beetles, bugs, scale insects, together with other insects and spiders.

The nest of this bird is a rather remarkable structure placed in a bunch of moss usually at some distance from the ground, and occasionally at the end of a drooping branch. It is constructed by drawing together the fibers of the moss and lining them sometimes with grasses and other vegetable fibers, sometimes hair, or wool. This makes a structure of rather unusual character with the entrance at the side, and somewhat as an oriole's nest would be if roofed over. The eggs are usually three to five, white, marked with reddish brown and gray.

The Western Parula Warbler is a fairly common summer resident, from February 15 to November 1, more numerous during migration, practically throughout Louisiana; reported north to Mer Rouge, Monroe, Bienville Parish, and Caddo Lake; west to Natchitoches, Hagerwood, Robeline, Newton, Sulphur, and Toomey; south to Lake Charles, Bayou Queue de Torte north of Gueydan, New Iberia, Avery

Island, Chenier au Tigre, Houma, Grand Isle, and Diamond; and east to Belair, New Orleans, Pearl River, Mandeville, Madisonville, Covington, Ponchatoula, Hammond, Clinton, Saint Francisville, Bains, Simmesport, Jena, Frogmore, Thomastown, the Singer Preserve in Madison Parish, and Tallulah. It breeds from the early part of April to May; and there are records of eggs from April 29 to May.

Specimens of this form of the Parula Warbler have been examined from Houma, collected, May 6, 1892, by Vernon Bailey; New Orleans, April 26, May 4, June 17 and 24, July 21, and August 20, all in 1935; March 13, 1937, March 19 and August 28, 1936, by T. D. Burleigh; April 9, 1917, by A. M. Bailey; and April 28, 1918, by S. C. Arthur; Grand Isle, April 6, 1931, April 7, 1936, April 8, 1937, and March 9, 1933, in the museum of the Louisiana Department of Conservation at New Orleans; West Baton Rouge Parish, May 11, 1903, and Jefferson Parish, March 19, 1898, collected by Andrew Allison. Eggs in the museum of Tulane University were obtained at New Orleans, April 29, 1894, and in May, 1895.

Vernon Bailey listed this species common at Mer Rouge, June 2 to 7, 1892; and H. H. Kopman reported it from Thomastown as rather uncommon, July 13 to 28, 1896. At Tallulah, June 13, to July 13, 1924, E. R. Kalmbach frequently met with it in the wooded areas. At Baton Rouge, George H. Lowery, Jr., considers it a common summer resident, and gives as arrival dates March 9, 1933, and March 8, 1936; and J. S. Campbell considers it a common summer resident in Bienville Parish. The writer found this species extraordinarily numerous in the heavy bottomland forest on the Singer Preserve along the Tensas River 13 miles southwest of Tallulah on June 17, 1933, and in the cypress swamps near Lottie, June 15, 1933. He observed it also at Frogmore, Jena, and in the Little River valley near White Sulphur-Springs in La Salle Parish, June 16, 1933; at Ervinville, Krotz Springs, and Port Barre, June 21, 1933; on Little Barataria Bayou, June 10, 1933; and at Raceland and Des Allemands, June 23, 1933. It was common on migration

from April 2 to 10, 1937, at Grand Isle, where many times observed by Ambrose Daigre. H. H. Kopman noted its arrival at New Orleans, February 15, 1918; its departure at Covington, October 26, 1899; and saw it at Hammond, April 26, 1918; at Ponchatoula, March 25 to 27, 1918; at Simmesport, August 31 to September 2, 1917; at Mandeville, August 18, 1917; at Oaklawn near Lacombe, August 17, 1917; and at New Iberia, March 6, and 15, 1902, at which locality it is a common summer resident. Edward Butler reported its breeding at Bains in 1916, and at Saint Francisville in 1915; and George E. Beyer, its breeding in 1891 at Clinton and Madisonville. A. K. Fisher collected a single bird at Madisonville, May 30, 1886; and the writer noted it at Pearl River, June 27, 1933. H. L. Ballowe recorded it common as a summer resident at Diamond in Plaquemines Parish, and its arrival in 1902 on March 12; while Ned Hollister saw it daily at Belair, from April 1 to 8, 1904. E. R. Kalmbach found this warbler at Bayou Queue de Torte north of Gueydan on May 17, 1925; and collected it south of Gueydan, March 30, 1926. The writer noticed it at Caddo Lake, June 18, 1933; at Natchitoches, Hagewood, Robeline, and Newton, June 19, 1933; at Lake Charles, Sulphur, and Toomey, June 20, 1933; and at Avery Island on June 21 of the same year. A single individual of this species struck the South Pass Lightship near Port Eads, March 10, 1905, but the subspecific determination of this specimen was not made.

The Parula Warbler of the southern Mississippi valley and Texas is sufficiently different from that inhabiting the northern part of the United States to merit subspecific separation. In color it is very similar to *Compsothlypis americana pusilla*, but is decidedly smaller. It has already been described by Robert Ridgway, but recent authors have not recognized its distinction. Its name should be as above given, *Compsothlypis americana ramalinae*.²²⁶

²²⁶ Ridgway, Bull. U. S. Nat. Mus., No. 50, Part II, October 16, 1902, pp. 179, 486.

The writer has no record of the Northern Parula Warbler, *Compsothlypis americana pusilla*, from Louisiana, but further collecting will undoubtedly reveal its presence during migration.

EASTERN YELLOW WARBLER

Dendroica aestiva aestiva (Gmelin)

Conspicuous because of its yellow plumage below and yellowish olive green above, the Eastern Yellow Warbler, or 'yellow bird', is readily identified in the field. It is one of the best known of our migrating warblers, although it does not breed regularly in the State. Not only is it found in the forests but it comes regularly about dwellings, and frequents all open areas where there are bushes or trees, lawns, gardens, and even the streets of towns. These characteristics have made it one of the most familiar of our warblers. It is a rather active bird, and although it usually does not gather in flocks, it is frequently found associated with groups of other warblers.

It has a varied, although simple song, similar to many of the other warblers, and a call note that is also much like that of some of the other species.

So far as its economic status is concerned, it is one of the most valuable of our small birds, particularly as it so much frequents the orchard and garden. Except for a small quantity of wild berries and fruits, it lives almost entirely on insects, some of which are among the most serious pests of fruit trees and other cultivated vegetation. These comprise canker worms, tent caterpillars, bark beetles, and other boring beetles, weevils, codling moths, flies, plant lice, and even grasshoppers.

The nest of this bird, built usually in bushes or low trees, is a beautiful structure of rather light grayish vegetable fibers and fine grasses, compact and well woven, and lined with the down of plants, fine grasses, and hair or feathers. The eggs are four to five, white or greenish white, marked with various shades of brown and lilac, sometimes in a wreath about the larger end.

A well known habit of this bird is to build a second nest, or rather a second, or even third story to its nest, to avoid hatching the eggs of the parasitic Cowbird. The young when grown are somewhat similar to the adult female.

The Eastern Yellow Warbler is a common spring and autumn transient, from March 30 to May 21, and July 12 (July 7 in southern Mississippi) to October 27, in all of Louisiana; reported from Grand Isle, Chateau Canard on Main Pass in the Mississippi River Delta, Junior, Savoie, Phoenix, Carlisle, Boutte, New Orleans, Caernovan, Mandeville, Madisonville, Bedico River, Hammond, Clinton, Bayou Sara, Simmesport, and Thomastown; west to Benton in Bossier Parish, Shreveport, Frierson, Gayle, Lucas, Mansfield, Cameron Farm 14 miles south of Vinton, and Calcasieu Pass. It is also a casual summer resident in eastern Louisiana.

The only breeding record is by Audubon, who collected a pair of these birds and found their nest containing young at Jackson, in May, 1821; and from them he drew his plate of *Sylvia childreni*,²²⁷ which he described as a new species, but which is without doubt the Yellow Warbler. He also observed the species there in June of the same year. Andrew Allison saw a singing male of this warbler at Lobdell on June 16, 1903, but there are apparently no other summer records for the State that would indicate breeding; since it is an early migrant, and the single bird noted at Thomastown, by H. H. Kopman on July 14, 1896, and at New Orleans, July 12, 1899, were doubtless autumn arrivals.

Specimens of the Eastern Yellow Warbler have been examined from Grand Isle, collected by George H. Lowery, Jr., April 10, 1937; others in the museum of Tulane University from Bedico River, August 11, 1890; Plaquemines Parish, August 3, 1895; Jefferson Parish, April 6, 1895; and New Orleans, August 3, 1888; in the museum of the Louisiana Department of Conservation at New Orleans, from

²²⁷ *Birds of America*, folio edition, Vol. I, 1828, pl. XXXV; *Ornith. Biog.*, Vol. I, 1831, p. 180.

Grand Isle, April 17, 1926, April 9 and 10, 1936; in the United States National Museum, from New Orleans, April 16, 1897, collected by W. B. Allison; and from Calcasieu Pass, taken in the spring of 1854 by G. Würdemann; also in the Biological Survey from New Orleans, July 20, 1936, July 26, 1937, July 20, 1935, August 8 and 29, 1935, August 6 and 27, 1935, April 13 and 14, 1936, September 4, 7, and 11, 1935, by T. D. Burleigh.

Sight records of Yellow Warblers in Louisiana are all included under the present subspecies, although it is possible that some of them refer to other races which are not distinguishable in the field. Andrew Allison chronicled the arrival of this species at New Orleans on March 30, 1904; and George E. Beyer, its departure from the same locality, October 27, 1893. E. R. Kalmbach obtained a specimen at the Cameron Farm, May 15, 1919. Ambrose Daigre found it common at Grand Isle, from April 5 to 22, 1937. H. H. Kopman has reported it from the following localities: Junior, August 4 to 5, 1917; Phoenix, September 12 to 15, 1917; Carlisle, October 4 to 5, 1917; Savoie, April 14, 1918; Boutte, August 23 to 24, 1917; Caernovan, April 16 to 18, 1918; Hammond, April 12, 1920; Mandeville, August 18, 1917; and Simmesport, August 31 to September 2, 1917.

NEWFOUNDLAND YELLOW WARBLER

Dendroica aestiva amnicola Batchelder

The Newfoundland Yellow Warbler is a rare spring and autumn transient in Louisiana, reported in April and from August 2 to 28.

The only certain State records are: a single specimen taken by Winston E. Nolan at Grand Isle on April 27, 1933, and now deposited in the collection of the Department of Agriculture in the State Capital at Baton Rouge; one bird from Grand Isle, collected by E. S. Hopkins on April 17, 1926; a female from Chalmette, August 28, 1935, and two others from New Orleans, August 2, 1935, and August 27, 1935, all in the Biological Survey and all collected by T. D. Burleigh.

The Newfoundland Yellow Warbler was described by Charles F. Batchelder as *Dendroica aestiva amnicola*²²⁸ from specimens taken at several localities in Newfoundland, the type being from Curslet. It is of about the same size as the Eastern Yellow Warbler, *Dendroica aestiva aestiva*, though somewhat smaller, but the male has the upper parts darker, more olivaceous (less yellowish); the crown somewhat less intensely and extensively yellow; and the female is darker more olivaceous (less yellowish) on the upper surface. It may be distinguished from the Alaska Yellow Warbler, *Dendroica aestiva rubiginosa*, by the lighter, somewhat more yellowish upper surface, and the distinctly yellow crown of the male, and by the lighter upper parts of the female. Although supposed originally to be confined to Newfoundland, the breeding birds of all northern Canada are nearer this race than to the Alaska bird, and the breeding range of *Dendroica aestiva amnicola* thus would extend north to the Barren Grounds of North America; west to central Alaska; south to British Columbia, Alberta, Manitoba, and Nova Scotia; and east to Newfoundland. It migrates through the United States at least east to the District of Columbia and west to New Mexico, and winters probably in South America.

All the technical names that at one time or another have been used for birds of this subspecies, prior to *Dendroica aestiva amnicola*, appear to be either preoccupied or otherwise inapplicable.

ALASKA YELLOW WARBLER

Dendroica aestiva rubiginosa (Pallas)

The Alaska Yellow Warbler is a casual autumn transient, from August 4 to September 19, in Louisiana.

There are only five records for the State: two of these specimens in the museum of the Louisiana Department of Conservation at New Orleans, without locality other than Louisiana, but probably from Grand Isle; one a female,

²²⁸ Proc. New Engl. Zool. Club, Vol. VI, February 6, 1918, p. 82.

collected, September 2, 1931, the other a male without date. The three remaining are a male in the Biological Survey from New Orleans, August 4, 1935, and two other examples from the same locality, September 18 and 19, 1935, all collected by T. D. Burleigh.

MAGNOLIA WARBLER

Dendroica magnolia (Wilson)

The Magnolia Warbler is an uncommon transient visitor, observed in both spring and autumn, from March 21 to May 15, and from September 17 to November 4, throughout most of Louisiana; reported from Pilot Town, Grand Isle, Marrero, New Orleans, Covington, and Monroe, west to Ruston, Bienville Parish, Cameron Farm (14 miles south of Vinton), and near Gueydan.

The writer has examined a specimen taken by T. D. Burleigh at New Orleans on November 4, 1936; and others in the museum of the Louisiana Department of Conservation at New Orleans, obtained at New Orleans in November, 1932, by Ambrose Daigre; at Marrero, October 3, 1932; at Grand Isle, April 28, 1929, April 24, 1937, and May 12, 1931; also in the museum of Tulane University, from Lewisburg, May 7, 1873. Mrs. G. L. Baldwin listed this species at Baldwin, March 21, 1910; and H. H. Kopman, at New Orleans on October 19 and November 1, 1895, and April 26, 1903; at Pilot Town in the Mississippi River Delta, October 13, 1917; and at Ruston in the northern part of the State, May 8, 1929. J. S. Campbell says that in Bienville Parish it is an abundant May transient, and common in autumn. E. R. Kalmbach obtained a single individual at Cameron Farm in Cameron Parish, May 15, 1919; and saw two south of Gueydan, April 29, 1925. Ambrose Daigre observed it at Grand Isle on April 21, 1937.

CAPE MAY WARBLER

Dendroica tigrina (Gmelin)

The Cape May Warbler is a rare spring transient, from April 27 to May 15, in both eastern and western Louisiana.

There are, however, only three records of this bird for the State: a specimen obtained in April, 1890, on the old Orleans Canal near New Orleans, by Erich Wittkugel, and originally recorded by George E. Beyer;²²⁹ one bird, sent to the Biological Survey and identified by the writer, which had struck the South Pass Lightship at Port Eads, April 27 or April 29, 1903; and one (a male) taken by E. R. Kalmbach on the Cameron Farm 14 miles south of Vinton in Cameron Parish, May 15, 1919.

BLACK-THROATED BLUE WARBLER

Dendroica caerulescens caerulescens (Gmelin)

The Black-throated Blue Warbler is a rare spring and autumn transient in eastern Louisiana, from March 22 to April 27, and in October.

A single individual was recorded from New Orleans, March 26, 1897, by H. H. Kopman,²³⁰ but Mr. Kopman himself later threw some doubt upon the certainty of his identification of this bird. George E. Beyer, however, reported one seen by him at New Orleans, March 22, 1894. Edward Butler observed six in West Feliciana Parish in October, 1915;²³¹ Mrs. George H. Lowery, Sr., noted individuals on April 26, 1931, and April 27, 1936, at Monroe;²³² E. S. Hopkins saw a single male at Grand Isle on April 8, 1928;²³³ and Ambrose Daigre observed it there on April 23 and 24, 1936.

MYRTLE WARBLER

Dendroica coronata coronata (Linnaeus)

So far as it is possible to judge, the Myrtle Warbler is the most abundant species of the family in Louisiana. Although, of course, it does not breed in the State, its numbers during periods of migration and in winter are

²²⁹ Proc. La. Soc. Naturalists, for 1897-1899 (1900), p. 112.

²³⁰ Nidologist, Vol. IV, No. 8, April, 1897, p. 95.

²³¹ Arthur, Bull. La. Dept. Cons., No. 5, January, 1918, p. 69.

²³² Bird-Lore, Vol. XXXIII, No. 5, October 3, 1931, p. 322.

²³³ Bull. La. Dept. Cons., No. 20, December, 1931, p. 495.

so great in almost any favorable locality, and it is so generally distributed, that it is, therefore, a well-known bird.

In any plumage its yellow rump, particularly, and the yellow patches on each side of the breast, combined with its grayish or brownish upper parts and blackish streaking on the breast, will usually readily distinguish it from any of the similar warblers.

It is found not only in the forests, but in brushy and cultivated areas, and, in fact, almost everywhere. Bushes or trees of any kind, in any place, seem to be an attraction to this bird. In habits it is not at all wary, and becomes a familiar bird wherever and whenever it occurs. Its rather guttural alarm note is similar to that of the Black-poll Warbler.

Notwithstanding that this species lives to a considerable extent on insects, many of them injurious, such as plant lice and their eggs, caterpillars, leaf beetles, wood borers, scale insects, grasshoppers, gnats, horse flies, and similar insects, it is one of the few birds of its group that lives for long periods almost exclusively on seeds and berries. It is very fond of the fruit of the bayberry, which it consumes at times in large quantities.

When it reaches its northern summer home it seeks a site for its nest in low trees, often conifers. The nest is placed usually not high from the ground, and is rather bulky, composed of various kinds of vegetable fibers, such as weed-stalks, grass stems, twigs, lichens, with a lining of fine grasses, rootlets, hair, and feathers. The three to five eggs are white, blotched and spotted with reddish brown or blackish, and lavender.

The Myrtle Warbler is a winter resident, from September 26 to May 2, casually to May 21, in all of Louisiana, abundant in the Gulf Coast region, but only fairly common in winter in northern Louisiana, although abundant in migration there. It has been reported north to Lake Providence, Oak Grove in West Carroll Parish, Monroe, Bienville Parish, Foster, and Belcher; west to Shreveport, Mansfield,

Natchitoches, and Black Bayou in the northwestern part of Cameron Parish; south to Mud Lake in southwestern Cameron Parish, Cameron, Grand Chenier, lower Vermilion River, Avery Island, Chenier au Tigre, Marsh Island, Avoca Island, Grand Isle, Southwest Pass, the mouth of South Pass in the Mississippi River Delta, the Delta Duck Club on Octave Pass in the Mississippi Delta; and east to Main Pass in the Mississippi Delta, Diamond, Belair, New Orleans, Chef Menteur, Lake Borgne, Lake Catherine, Mandeville, Covington, Bains, New Roads, Tallulah, and East Carroll Parish.

The writer has examined specimens of *Dendroica coronata coronata* from West Baton Rouge Parish, February, 1903, collected by Andrew Allison; from Chenier au Tigre October 10 and 11, 1925, and December 14, 1925, shot by A. M. Bailey; and from New Orleans, April 14 and 23, 1936, killed by T. D. Burleigh; February 11 and 15, 1896, collected by George K. Cherrie; also from New Orleans, November 16, 1882, two by R. W. Shufeldt, and one taken February 19, 1886, now in the museum of Tulane University; one from Jefferson Parish in the museum of the Louisiana Department of Conservation at New Orleans, shot on February 4, 1932; another from Grand Isle, April 13, 1937, obtained by Winston E. Nolan; and also one from Chef Menteur, January 22, 1896, G. K. Cherrie. Other specimens collected, not examined in this connection, but which may be reasonably presumed to belong to this subspecies, were obtained by A. H. Howell at Mansfield, April 27, 1907, and May 2, 1907; at Foster five miles east of Shreveport, January 28, 1908; at Belcher, February 3 and 5, 1908; at Natchitoches, January 16 to 18, 1908; and at Alexandria, January 9, 1908; also by G. K. Cherrie at Chef Menteur, January 21, 1896. E. R. Kalmbach secured three on March 9, 1926, south of Gueydan; Henry W. Henshaw, one at Lake Borgne, March 12, 1870; George H. Lowery, Jr., at Baton Rouge, April 3 and March 31, 1937; and one individual struck the Southwest Pass Lightship off the mouth of the

Mississippi River, March 15, 1902, and another the South Pass Lightship, December 23, 1903.

W. L. McAtee found it fairly common at Cameron, November 28 to December 6, 1910; and Ned Hollister, at Belair, March 25 to April 8, 1904. A. B. Blakemore observed it at New Orleans on October 12 and 21, 1895. Robert Butler reported it at Bains, March 24 and December 4, 1929; and H. H. Kopman at New Roads, December 15, 1917; at Covington, October 18, 1903; and at Chef Menteur, December 23, 1917, fairly common in the small live oaks, junipers, yuccas, and other kinds of vegetation that form the thickets along the banks of the bayous that there intersect the tidal marsh. George H. Lowery, Jr., noted it at Baton Rouge April 26, 1936; and Ambrose Daigne at Grand Isle on April 6, 1936. Ned Hollister listed it abundant in the parishes of Morehouse, West Carroll, East Carroll, and Madison, from February 11 to March 20, 1904. J. S. Campbell considers it an abundant spring and fall transient, but a less numerous winter resident, in Bienville Parish.

This bird is almost unbelievably numerous in the bushes along the bayous and ditches that are so frequent in the coastal marshes, and in the thickets that border the streams in the same region. Along the Vermilion River from Abbeville south to the Rainey Wild Life Sanctuary on January 22, 1928, the writer counted 162 of these birds almost all single or in groups of not more than two or three, and on the Rainey Wild Life Sanctuary he found 350 on the same day. The species was common on Terrebonne Bayou below Houma, all the way to Lake Barre, December 22 and 23, 1932; on Little Caillou Bayou from Bush Canal to the junction of Terrebonne Bayou, December 24, 1932; and fairly common on the Bayou Des Allemands and Mud Lake near Des Allemands on the same day. It was observed by him all along the way from the club house of the Orange-Cameron Land Company in southwestern Cameron Parish, through the canals of the marsh to Black Bayou in Cameron Parish, January 27, 1928; and at Mud Lake in south-

western Cameron Parish, January 26, 1928. He noted it also at Grand Chenier, December 31, 1932; and common at Avoca Island, January 27 and 28, 1932, as well as at Avery Island, December 28, 1932. H. L. Ballowe noticed it at Diamond in Plaquemines Parish, April 2, 1902, April 14, 1902, and on October 20, 1901. The writer found it numerous along the lower Mississippi River from the Pass a Loutre Hunting Preserve north to Ostrica, January 23, 1932. He encountered it in the Mississippi River Delta at the following localities: Delta Duck Club on Octave Pass, December 20, 1932; Gasper Pass, December 19, 1932; Dead Woman Pass, December 18, 1932; Willow Pass, December 20, 1932; and Main Pass, December 19, 1932.

HOOVER WARBLER

Dendroica coronata hooveri McGregor

The Hoover Warbler is a winter resident in southeastern Louisiana, from November 26 to April 17, apparently uncommon, but, as it is not distinguishable except by specimens in the hand, it may be more numerous than our present available records indicate.

The following specimens from Louisiana have been examined: one male obtained at Belair, April 6, 1904, by Ned Hollister; two birds from Grand Isle, April 16 and 17, 1937, one male from New Orleans, March 10, 1936, and one on March 31, 1936, all by T. D. Burleigh; another male taken at New Orleans, November 26, 1882, by R. W. Shufeldt; one individual from there, February 15, 1896, by G. K. Cherrie; and another specimen in the museum of Tulane University collected at New Orleans in April, 1894. One was obtained by G. K. Cherrie at Chef Menteur on January 21, and one on January 22, 1896.

The Myrtle Warblers breeding in Alaska are recognizable as a western race of this species. They differ from the eastern bird in larger size and more solidly black breast in the male. The upper parts in winter plumage and in the young are also less rufescent than in the eastern bird. This

race has available the name given to it many years ago by R. C. McGregor,²³⁴ and should be called *Dendroica coronata hooveri*. Its breeding range is confined to the northwestern part of the North American continent, but in winter it occurs southward as far as northern Lower California and the southern United States, east to Louisiana.

BLACK-THROATED GREEN WARBLER

Dendroica virens virens (Gmelin)

The Black-throated Green Warbler is a spring and autumn transient, from March 30 to May 9, and from August 12 (July 30 in southern Mississippi) to November 4, but observed only in eastern, middle, and northwestern Louisiana; fairly common at times in the southeastern part of the State, but uncommon elsewhere; and noted from Grand Isle, New Orleans, Covington, Lobdell, Baton Rouge, West Feliciana Parish, and Madison Parish, west to Bienville Parish and Breaux Bridge in Saint Martin Parish.

The writer has seen Louisiana specimens of this warbler from New Orleans, collected by T. D. Burleigh on September 9, 1935, and November 4, 1936; Grand Isle, April 15, 1926, April 8, 1937, and April 16, 1930, in the museum of the Louisiana Department of Conservation at New Orleans; and one taken by Winston E. Nolan at Grand Isle, May 3, 1933. It was noted at Grand Isle also by Ambrose Daigre on May 5, 1936. George H. Lowery, Jr., reported it relatively common in the vicinity of Monroe, where it was met with in 1930 as early as March 30. Andrew Allison saw it at Lobdell, May 9, 1903; and H. H. Kopman at Breaux Bridge in Saint Martin Parish, August 12, 1917; at Covington, October 28, 1899; at New Orleans, common on October 20, 1896, and seen also, October 22, 1896, October 28, 1899, April 21, 1905, and April 19 and 22, 1911. J. S. Campbell regards it as a common transient in Bienville Parish, arriving in spring about April 1.

²³⁴ *Dendroica coronata hooveri* McGregor, Bull. Cooper Ornith. Club, Vol. I, No. 2, March 15, 1899, p. 32.

WAYNE WARBLER*Dendroica virens waynei* Bangs

The Wayne Warbler is a casual or accidental visitor to southern Louisiana during the spring migration.

A practically typical adult male of this southern race of the Black-throated Green Warbler was collected by T. D. Burleigh at New Orleans on April 23, 1936. There is no other record for the State.

CERULEAN WARBLER*Dendroica cerulea* (Wilson)

The Cerulean Warbler is a rare, locally fairly common, summer resident, from March 31 to September 20, in northern, central, and southeastern Louisiana; reported north to Franklin Parish, Monroe, Bienville, and Caddo Lake; west to Natchitoches, the Red River, and the Little River valley near White Sulphur Springs in La Salle Parish; south to Lottie and Saint Tammany Parish; and east to Mandeville, Madisonville, Bains, and the Singer Preserve in Madison Parish. It is also a rare transient, from March 27 to April 11, and from August 28 to October, in southeastern Louisiana south of its breeding range, from New Orleans to Grand Isle.

The writer has seen specimens of this interesting warbler in the Biological Survey, collected by T. D. Burleigh at New Orleans August 28, 1936, and one taken at the same place on September 20, 1937; in the museum of the Louisiana Department of Conservation at New Orleans, from Grand Isle, April 6, 1931, April 11, 1936, April 9 and 11, 1937, and March 27, 1926; and Andrew Allison sent a specimen to the United States National Museum collected in Jefferson Parish on April 8, 1898. One was taken also near New Orleans, April 15, 1928, by E. S. Hopkins. F. W. Langdon recorded it on the Cinclare Plantation in West Baton Rouge Parish, April 14, to 17, 1881; and C. W. Beckham, at Bayou Sara, April 20, 1887. It must have been abundant at Grand Isle on April 10, 1937, for Ambrose

Daigre saw 20 there on that day. Edward Butler reported its breeding at Bains in 1916, and its arrival there in 1922 on March 31. George E. Beyer remarked in 1891 that it bred at Madisonville; and H. H. Kopman and Andrew Allison listed it from New Orleans, April 10, 1899, and April 8, 1898. The writer observed it in a cypress swamp near Lottie on June 15, 1933; near White Sulphur Springs in the Little River valley in La Salle Parish, June 16, 1933; also at Caddo Lake, June 18, 1933. It was present, in song, and doubtless breeding in the heavy bottomland forest along the Tensas River on the Singer Preserve 13 miles southwest of Tallulah, where he saw it on June 17, 1933. George H. Lowery, Jr., has detected it at Monroe between April 20 and May 11. John James Audubon recorded it as occurring in the neighborhood of Natchitoches and along the Red River. J. S. Campbell gives it as a common summer resident in Bienville Parish, from April 18 to late August. S. C. Arthur observed it on June 16, 1921, between Bayou Sara and Oakley in West Feliciana Parish.

BLACKBURNIAN WARBLER

Dendroica fusca (Müller)

The Blackburnian Warbler is a rare transient, from March 27 to April 27, and from September 7 to October 9, in most parts of Louisiana, from Grand Isle, New Orleans, Lake Borgne, Bayou Sara, and Monroe, west to Bienville Parish, Baldwin, and Calcasieu Pass.

Specimens of this warbler have been seen in the museum of the Louisiana Department of Conservation at New Orleans, taken, March 31, 1931, and April 7, 1931, at Grand Isle; and in the Biological Survey, from New Orleans, September 7, 1935. Others not seen by the writer were obtained at Grand Isle, April 4 and 15, 1925, by E. S. Hopkins, also April 3 and 7, 1936, and April 9, 1937, by Ambrose Daigre; at Lake Borgne, March 27, 1870, and April 18, 1870, by Henry W. Henshaw; and at Calcasieu Pass in the spring of 1854 by G. Würdemann. Ambrose Daigre observed it at Grand Isle on April 8, 10, and 11, 1937;

Mrs. G. L. Baldwin reported it at Baldwin, April 21, 1910; and at New Orleans, Andrew Allison has seen it on April 8, 1900, and H. H. Kopman on April 23, 1899, April 19 and 22, 1911, September 24, 1897, October 9, 1896, April 20 and 21, 1899. At Monroe, George H. Lowery, Jr., has recorded its arrival in spring, March 30, 1929, April 1, 1931, and April 16, 1930; in autumn, September 7, 1930, and September 27, 1931. He has found it also as a transient in the neighborhood of Baton Rouge. J. S. Campbell considers it a fairly common spring and autumn transient in Bienville Parish.

YELLOW-THROATED WARBLER

Dendroica dominica dominica (Linnaeus)

The Yellow-throated Warbler is of casual occurrence during migration in Louisiana, thus far observed only in the spring. The only records for the State are four specimens which have recently been identified by the writer, none of which, however, is entirely typical, although nearer this race than to the Sycamore Warbler, the common form of this species in Louisiana. These records are a single specimen taken by A. M. Bailey at Chenier au Tigre, March 10, 1931; another in the museum of the State Department of Conservation, at New Orleans, collected in Louisiana, exact locality unknown, on April 16, in an unknown year; one collected by Thomas D. Burleigh, at New Orleans on August 16, 1937; and another by Ambrose Daigre at Grand Isle, April 3, 1937.

SYCAMORE WARBLER

Dendroica dominica albilora Ridgway

The Sycamore Warbler is an uncommon summer resident, from February 27 to October 16, throughout most of Louisiana, fairly common at times during the migration in the southeastern part of the State; and reported north to Monroe and Bienville; west to Bienville and Black Bayou in Cameron Parish; south to Black Bayou, New Iberia, Grand Bayou in Ascension Parish, Jefferson Parish, and

New Orleans; and east to Madisonville, Lake Pontchartrain, Hammond, Clinton, Bayou Sara, Bains, and Tallulah. It occurs also, though not certainly breeding, south from the above given range to the Gulf Coast region from Lake Borgne to Grand Isle and Grand Chenier.

The writer has seen specimens of this warbler from Jefferson Parish, March 12, 1898, collected by Andrew Allison; two in the museum of Tulane University, taken at Shell Beach, near New Orleans, March 21, 1885, and at New Orleans, April 6, 1895; and in the Biological Survey also from New Orleans, by T. D. Burleigh on August 4, 1937, March 13, 1937, April 16, 1935, and June 19, 1935. There is one in the Museum of Comparative Zoölogy from near Mandeville, by Charles S. Galbraith, date unknown, but probably about 1891. A. M. Bailey also obtained this subspecies at Chenier au Tigre on March 10, 1931; E. R. Kalmbach shot an individual on Black Bayou in Cameron Parish, May 10, 1919; and A. K. Fisher, several specimens at Madisonville, May 30, 1886. Henry W. Henshaw collected it at Lake Borgne, April 4, 1870; and a specimen sent to the Biological Survey from Ship Shoal Lighthouse had struck the light on March 12, 1905.

H. H. Kopman found this bird a summer resident at New Iberia, and noted it there on March 15, 1902. At Baton Rouge, where according to George H. Lowery, Jr., it is a common summer resident, it arrived on March 10, 1933, March 24, 1934, and March 8, 1936. It was taken there by him on April 24, 1937. He saw it also at Hammond, April 26, 1918; common in the cypress and in the hardwood forests at Ponchatoula, March 25 to 27, 1918; at Grand Bayou in Assumption Parish, May 10 to 11, 1916; and at New Orleans, February 27 and March 13, 1897. Ambrose Daigre observed a few individuals at Grand Isle on April 3, 1936, and April 1 and 2, 1937. George H. Lowery, Jr., collected it there on April 18, 1937. George E. Beyer remarked in 1891 its breeding at Clinton and Madisonville; and Robert Butler in 1929 noted its arrival on April 2 at Bains, in which locality it is also a breeding

bird. E. R. Kalmbach saw a single individual south of Tallulah, between June 13 and July 13, 1924. J. S. Campbell considers this warbler a common summer resident about Bienville.

CHESTNUT-SIDED WARBLER

Dendroica pensylvanica (Linnaeus)

The Chestnut-sided Warbler is a rare spring and autumn transient, from March 21 to May 12, and from September 4 to October 17, in most parts of Louisiana; reported from Grand Isle, Jefferson Parish, New Orleans, Bayou Sara, and Monroe, west to Ruston, Shreveport, and Lewisburg.

The writer has examined specimens of this bird in the museum of the Louisiana Department of Conservation at New Orleans, from Jefferson Parish, September 26, 1930; and Grand Isle, April 9, 1931; in the museum of Tulane University, from Lewisburg, September 4, 1871; and in the Biological Survey from New Orleans, September 10, 1935 and October 17, 1935, collected by T. D. Burleigh. E. S. Hopkins obtained it also at Grand Isle, April 13, 1925; where Ambrose Daigre observed it on April 24 and 28, 1936, and April 15, 1937; and A. M. Bailey noted a few taken in May of 1918 at New Orleans. C. W. Beckham recorded it from Bayou Sara, April 22, 1887; and George H. Lowery, Jr., reported it as common at Ruston, April 27, 1931, and first seen in 1931 at Monroe on April 19. J. S. Campbell considers it a rare spring transient in Bienville Parish, where he has recorded it at Bienville, April 22 and 28, 1933, and near Lucky on April 28, 1934. H. H. Kopman chronicled its arrival at Shreveport on April 30, 1931; and found it at New Orleans, April 21, 1905, September 21 and 22, 1897, October 8, 1911, and October 10, 1896; and George E. Beyer observed it, likewise at New Orleans, March 21, 1894.

BAY-BREASTED WARBLER*Dendroica castanea* (Wilson)

The Bay-breasted Warbler is a rare spring and fall transient, from April 20 to May 15, and from the middle of September to October 11, in most parts of Louisiana; reported from Grand Isle, New Orleans, and Monroe, west to Ruston, Bienville, Mansfield, Gueydan, New Iberia, and Ship Shoal Lighthouse southwest of Racoon Point.

A specimen of this warbler was collected by T. D. Burleigh at New Orleans, May 4, 1937; one by Winston E. Nolan at Grand Isle, May 9, 1933; one in the museum of the Louisiana Department of Conservation at New Orleans is also from Grand Isle, April 20, 1926; and one from New Orleans in the museum of Tulane University was taken April 30, 1874. Also Andrew Allison obtained one at New Orleans, May 5, 1897. E. S. Hopkins recorded it from Grand Isle, April 20, 1926, and from April 30 to May 4, 1925, during which latter period he collected several specimens; and Ambrose Daigre saw it there on May 5, 1936. One bird was shot by A. H. Howell at Mansfield, May 2, 1907; and the writer examined one sent from the Ship Shoal Lighthouse southwest of Racoon Point, that had struck the light during the spring of 1907. E. R. Kalmbach reported individuals seen near Gueydan, April 29 and May 1, 1925. H. H. Kopman noted it from New Iberia, May 15, 1902; from New Orleans, May 6, 1924, April 26, 1903, May 5, 1897, and as common in the autumn of 1896, when he saw it last on October 11. George H. Lowery, Jr., records it as a regular transient at Monroe; its spring arrival there on May 4, 1930, and April 27, 1931; and its autumn departure on September 27, 1931. At Bienville J. S. Campbell regards it a rather rare spring transient, and records it there April 26, 1932, April 30 and May 3, 1933.

BLACK-POLLED WARBLER*Dendroica breviunguis* (Spix)

The Black-polled Warbler is a rare spring and autumn transient, from April 4 to May 8, casually to June 4, and from September 21 to October 10, in most of Louisiana, from Grand Isle, Grande Terre, New Orleans, West Feliciana Parish, and Monroe, west to Shreveport; and an accidental winter resident in the central southern part of the State.

The writer has seen specimens in the museum of Tulane University collected at Spanish Fort, New Orleans, May 8, 1880 (two); in the museum of the Louisiana Department of Conservation at New Orleans, taken at Grand Isle, June 4, 1933; and in the State Capitol at Baton Rouge, obtained at Grand Isle, April 20, 1933. Other specimens were gathered by E. S. Hopkins at Grand Isle, April 24 and 30, 1925, and May 6, 1928, and at Grande Terre in May, 1929. Ambrose Daigre took examples at Grand Isle, April 17 and 22, 1936, and April 20, 1937; also observed it there on April 24, 1936, and April 15, 20, and 21, 1937. In West Feliciana Parish Edward Butler reports it as a rare migrant. H. H. Kopman saw it at New Orleans, September 21, 1897; and at Shreveport, April 30, 1931, in each instance a single bird. George H. Lowery, Jr., reported it from Monroe, April 20 and 27, 1931; and from Baton Rouge, April 27, 1933. J. S. Campbell's sole record from Bienville is one seen along Saline Creek near there on April 26, 1933.

The only winter records that we have for Louisiana are a single bird observed by the writer on the Rainey Wild Life Sanctuary, January 23, 1928; and another individual seen on the Company Canal between Lockport and Bourg on January 26, 1932.

This is the bird commonly called by the technical name *Dendroica striata* (Forster). For the change to the name above used, see Hellmayr, Zoological Series Field Museum of Natural History, Vol. XIII, Part 8, September 16, 1935, p. 403.

NORTHERN PINE WARBLER

Dendroica pinus pinus (Wilson)

The Pine Warbler is well named, for it frequents so nearly exclusively the pine forests that it may be considered one of their characteristic inhabitants. In almost any pine woods in Louisiana one may be reasonably sure of hearing the monotonous rather unmusical trilling song of this bird.

A bird of inconspicuous appearance, olive green above with a dull yellow throat, it might pass in appearance for some other species, and its song might easily be mistaken for that of the Chipping Sparrow. In general habits it is rather deliberate, not as active as many of the woodland warblers, and is, therefore, not so easily discovered.

The food of this warbler consists of insects such as beetles, moths, flies, bugs, scale insects, ants, and grasshoppers, also at times includes seeds of pines, and wild berries such as those of sumac and dogwood.

The nest of the Pine Warbler is usually on a horizontal branch of a tree, often a pine, at a considerable distance from the ground, sometimes as much as 50 feet, in some cases well out from the trunk of the tree. It is composed of strips of bark, stems of leaves and of weeds, and lined with horsehair and feathers, the whole intermixed and bound together with insect silk or cocoons, forming a rather bulky but rather solidly built structure. The eggs are usually four to five, of a creamy or bluish white, spotted and blotched with brown or blackish and lavender.

The Northern Pine Warbler is a fairly common permanent resident in the pine and mixed forests of Louisiana, reported north to Lake Providence, Monroe, Bienville, and Belcher; west to Frierson, Clear Lake, Mansfield, Logansport, Natchitoches, Hagewood, Fort Jesup, Many, Fisher, Anacoco, and Orange (Texas); south to Orange (Texas). Alexandria, Ponchatoula, Bedico River, and Oaklawn near Lacombe in Saint Tammany Parish; and east to Madisonville, Hammond, Franklinton, Hackley, Clinton, Bayou Sara, Saint Francisville, Bains, Jena, Clarks, and Monroe. It is thus

absent from the Gulf Coast region and from much of the deciduous bottomland forests, particularly in the valley of the Mississippi River. It is apparently only a winter resident south of its above-outlined breeding range, and has been reported from New Orleans, Convent, and Saint James, south to Plaquemines Parish, Southwest Reef at the entrance to Atchafalaya Bay, and Chenier au Tigre. It breeds from April to June and there are records of eggs from May 2 to June 5.

All the specimens examined in the present connection belong to the typical form of the species. One in the State Capitol at Baton Rouge was obtained at New Orleans, December 16, 1932; others in the United States National Museum, at Clarks, January 7, 1908, by A. H. Howell; at Mansfield, January 23 and 24, 1908, by A. H. Howell; at Grand Isle April 15, 1937, by T. D. Burleigh; and several in the museum of Tulane University, at Franklinton, May 26, 1888; Madisonville, May 12 and 15 (juvenal plumage), May 19 and 20, 1888, and February, 1863; Bedico River, August 16, 19, and 20, 1890; Saint James, December 31, 1893; Saint James Parish, December 25, 1893; and Plaquemines Parish, December 20, 1862. A single bird struck the Southwest Reef Lighthouse on October 23, 1908, and was reported by S. Jones. One individual was taken at Belcher on February 7, 1908, by A. H. Howell; one at Mandeville, May 1, 1889, by C. S. Galbraith; one at Chenier au Tigre on January 5, 1934, by A. M. Bailey; one at Grand Isle, April 15, 1937, by Ambrose Daigre; another at Buras, February 1, 1896, by G. K. Cherrie; and still another at Carr's Creek in Jackson Parish, April 25, 1937, by S. Ward.

A H. Howell found this warbler at Logansport, August 25 to 27, 1906; and at Natchitoches, January 16 and 21, 1908, where the writer also observed it fairly common on June 19, 1933. J. S. Campbell says that it is a regularly breeding bird about Bienville, where he found nests with eggs on May 2 and 11, 1933, and June 5, 1934. George E. Beyer stated in 1891 that it bred at Madisonville and Clinton; and Edward Butler listed it as breeding

at Saint Francisville in 1915, and at Bains in 1916. H. H. Kopman noted it at Oaklawn near Lacombe in Saint Tammany Parish as fairly common on February 24, 1918, and also on August 17, 1917; at Ponchatoula, March 25 to 27, 1918; at Hammond, April 26, 1918, and January 24 and 25, 1918. A. H. Howell discovered it common and singing at Hackley, February 20 to 24, 1912; and H. H. Kopman saw one individual at New Orleans on March 9, 1895; and two at Oneida near Convent between December 23, 1893, and January 1, 1894. The writer met with this species at Alexandria and Jena on June 16, 1933, but it apparently was not common in these localities, as in each case he observed only a single individual. He noticed it also, but more commonly, in western Louisiana at Hagewood, Fort Jesup, Many, Fisher, and Anacoco on June 19, 1933.

NORTHERN PRAIRIE WARBLER

Dendroica discolor discolor (Vieillot)

The Northern Prairie Warbler is a rare summer resident, from March 30 to September 21, in northern and southeastern Louisiana.

George H. Lowery, Jr., has found this species about Monroe, where he recorded it on April 15, 1929; March 30, and September 21, 1930; April 19, and July 8, 1931; and where he took a specimen on June 19, 1931.²³⁵ The same observer also collected a male at Pine Grove on April 20, 1937. It doubtless breeds in this region. He also saw a male in full song on July 8, 1932, at Carr's Creek near Jackson in East Feliciana Parish; and has observed it also as a transient in the Baton Rouge region. Thomas D. Burleigh collected a single female at New Orleans on September 2, 1935. J. S. Campbell has observed it in spring as fairly common in Bienville Parish. Other records for the State are a single individual seen by Andrew Allison at Lobdell on April 17, 1903; and two seen by H. H. Kopman at Hammond on August 2, 1920.

²³⁵ Bull. La. Poly. Inst., Vol. XXIX, No. 4, November, 1931, pp. 10, 43.

WESTERN PALM WARBLER

Dendroica palmarum palmarum (Gmelin)

The Western Palm Warbler is a rare spring and autumn transient, from April 5 to 18 and from August 4 to November 12, in eastern Louisiana.

We have examined specimens from Jefferson Parish, taken on April 8, 1898, by Andrew Allison, and April 12, 1890, by George E. Beyer; from New Orleans, collected by R. W. Shufeldt, November 2, 1882, and by T. D. Burleigh, October 30, 1935; from Grand Isle, April 5, 1936, and April 9, 1937, by Ambrose Daigre; from Baton Rouge, November 12, 1937, by George H. Lowery, Jr.; and a single specimen in the museum of Tulane University, obtained on August 4, 1896, at New Orleans. A. M. Bailey took one at Chenier au Tigre, December 12, 1925; and George H. Lowery, Jr., also collected one, not now examined, at Grand Isle on April 9, 1936, and another on April 9, 1937. At this locality it must have been common in April, 1937, as Ambrose Daigre observed seven on April 9, five on April 7 and 15, and others on April 5, 12, and 18. These specimens do not indicate that this race of the Palm Warbler is a winter resident in Louisiana, but further investigation may prove such to be the case. It is difficult to distinguish from the Yellow Palm Warbler in the field, and, therefore, most determinations must be made from specimens collected.

YELLOW PALM WARBLER

Dendroica palmarum hypochrysea Ridgway

The Yellow Palm Warbler is a rare winter resident, from November 26 to April 21, in central and eastern Louisiana; reported from Chenier au Tigre, Avery Island, New Iberia, Oneida, New Orleans, and Mandeville, north to New Roads, Alexandria, and Lake Providence.

The writer has seen specimens from Mandeville, collected, February 24, 1933, by Winston E. Nolan; from New Orleans, November 26, 1882, by R. W. Shufeldt; Jefferson Parish (two), on March 19, 1904, obtained by Andrew

Allison; and a single male from Alexandria, collected in December, 1932, by Ambrose Daigre. A lone individual was seen at Grand Isle on April 21, 1937, by Ambrose Daigre.

Assuming that this is the only winter Palm Warbler of Louisiana, there are here included the winter sight records as referring probably to the Yellow Palm Warbler, *Dendroica palmarum hypochrysea*, although some of these were originally recorded as the Western Palm Warbler, *Dendroica palmarum palmarum*. There are records of birds observed in Louisiana from October 24 to April 22, but without actual specimens it is impossible to say whether or not some of these, especially the autumn and spring records, refer in part at least to *Dendroica palmarum palmarum*. The Yellow Palm Warbler is the only race certainly determined by specimens to winter in the State. A. M. Bailey observed this species at Chenier au Tigre and Avery Island, in December, 1925; and H. H. Kopman saw several in the willows near New Roads in Avoyelles Parish, December 15, 1917; at New Orleans, December 9, 1917, and found it common there, January 6 and 8, 1894; and at Oneida, near Convent, December 23, 1893, to January 1, 1894. George H. Lowery, Jr., says that it winters regularly near Baton Rouge.

OVENBIRD

Seiurus aurocapillus aurocapillus (Linnaeus)

The Ovenbird is a rather outstanding member of the warbler family. It is called Ovenbird from the shape of its nest, and 'teacher-bird' from its ordinary song. Its trim plumage of olive green above with a brownish yellow crown and dark streaked white under parts so much resembles some species of thrushes that the bird is often called 'golden-crowned thrush', although it is not closely related to the thrushes, but is a member of the warbler family.

It is a bird of the woodlands and is very seldom found in the open country. Perhaps the shady, dimly-lighted woods, in which it loves to dwell, have invested it with a

charm that is more or less absent in birds that live in the open country. While it, of course, is frequently seen on trees and bushes, from a low perch on one of which it delights to sing, it yet is fond of walking about with dainty steps over the leaves and slipping through the underbrush with almost ghostly movement. Except when on migration it is not given to long flights, and it is not a bird that is fond of gathering into flocks. In the spring the males usually arrive on their breeding grounds several days before the females, and like so many other birds of similar habits each male appropriates a territory for itself, which it defends until the females arrive, and, as a matter of fact, throughout the nesting season. In areas where the bird is common these territories usually range from somewhat more than half an acre to over four acres, depending on circumstances.

The ordinary song of the male is a repetition of two notes that very closely resemble the word 'teacher', from which this song is frequently called 'the teacher song'. This consists usually of from seven to ten repetitions of these syllables, which become louder toward the end of the song. The bird also has a very beautiful flight song, which is much less frequently heard. The call note is a rather sharp chirp.

The food of this warbler is made up largely of insects of various kinds, such as caterpillars, both hairless and hairy, plant lice, grasshoppers, crickets, weevils and various other beetles, flies, ants, and many others, together with some other animals, such as snails, spiders, and earthworms, and, at times, certain seeds and wild berries.

The nest of the Ovenbird is one of the most interesting features of its life history. It is situated almost always in woodland, on the ground, and is arched over, with the entrance at the side. It is placed in less of a depression than most ground-nesting birds' nests, and is composed of various kinds of grasses, weed-stems, bark, rootlets, and mosses, and lined often with horsehair, fine grasses, and sometimes pine needles. The whole nest is so well concealed

that it is difficult to discover without watching the birds. The usually four to five eggs are white, spotted with reddish brown and lilac. It takes usually about 12 days for hatching, and apparently only the female carries on incubation. The young grow rapidly and remain in the nest about eight days, at which time they are still not entirely able to take care of themselves, and are looked after by one of the parents for some time thereafter.

This bird is one of the best known and most attractive of the woodland warblers, and, aside from its natural enemies, and the accidents to which all ground-nesting birds are subject it is not much in danger of destruction.

The Ovenbird is a rare and local summer resident in central and northwestern Louisiana, from Alexandria and Trout, northwest to Cross Lake; and an uncommon spring and autumn transient, from April 4 to May 15, and from August 9 to October 8, in southern Louisiana, reported from Grand Isle, Jefferson Parish, New Orleans, Rigolets, Lobdell, and Monroe, west to Gueydan and Ship Shoal Lighthouse southwest of Racoon Point. It is also a casual winter resident in central southern Louisiana.

The writer observed this species in the woodlands at Trout and Alexandria, June 16, 1933; at Cross Lake west of Shreveport on June 18, 1933; and it was probably breeding in these localities.

The winter records for Louisiana are by George E. Beyer, who states that he collected it on Avery Island, "in January, 1894 and 1896".²³⁶ The writer has examined a specimen taken by George E. Beyer at Avery Island, February 1, 1894, and this is now in the museum of Tulane University. There are apparently no other winter records for Louisiana, and, therefore, the statement in the latest edition of the A. O. U. Check-List,²³⁷ that this species winters on the "islands off the Louisiana coast" is scarcely correct, since Avery Island is not "off the coast", but many miles inland.

²³⁶ Proc. La. Soc. Naturalists, for 1897-1899 (1900), p. 114.

²³⁷ Check-List North Amer. Birds, 4th Edition, 1931, p. 293.

Other specimens seen in the present connection are from Grand Isle, obtained on April 11, 1931, and April 12, 1921, by E. S. Hopkins; and on May 5, 1933, by Winston E. Nolan; and two in the museum of Tulane University, taken in Jefferson Parish, April 6, 1895, and at New Orleans, April 21, 1895, respectively. A single bird struck the Ship Shoal Lighthouse southwest of Racoon Point, during the spring of 1907, and was sent for examination to the United States Biological Survey. Henry W. Henshaw also took a specimen at Rigolets on August 9, 1870; and Ambrose Daigre one at Grand Isle on April 8, 1936.

George H. Lowery, Jr., records this species as a regular migrant at Monroe, where he has observed it between April 26 and May 15. J. S. Campbell considers it a spring transient at Bienville from April 15 to May 10. C. W. Beckham entered it as common at Bayou Sara, where he noted it in 1887 first on April 24. Andrew Allison saw it at Lobdell, May 9, 1903; H. H. Kopman, at New Orleans on October 8, 1911, and October 7, 1896; and Ambrose Daigre at Grand Isle on April 22, 1937, and April 23, 1936. E. R. Kalmbach noticed a single individual south of Gueydan, April 29, 1925.

GRINNELL WATERTHRUSH

Seiurus noveboracensis notabilis Ridgway

The Grinnell Waterthrush is an uncommon, locally fairly common, spring and autumn transient, from April 6 to May 7, and from July 20 to October 17, chiefly in central and eastern Louisiana; reported from Southwest Pass in the Mississippi Delta, Carlisle, New Orleans, Mandeville, Bayou Sara, Simmesport, and Thomastown, west to Bienville Parish and Calcasieu Pass.

The writer has examined specimens of this waterthrush from Baton Rouge, taken, September 19, 1937, by George H. Lowery, Jr.; also in the museum of Tulane University, from Mandeville, without date; and from New Orleans, April 7 and October, 1897; April without indication of year; and October 6, 1888; also birds in the Biologi-

cal Survey, collected by T. D. Burleigh, from New Orleans, August 4 and 29, 1935, September 9, 1935, and October 1, 1935. A waterthrush, presumably of this subspecies, was collected by G. Würdemann at Calcasieu Pass during the spring of 1854, and sent to the Smithsonian Institution, but the specimen now cannot be found. Another, not identified subspecifically, struck the Southwest Pass Lightship in 1902.

George E. Beyer reported this species from New Orleans, May 7, 1897; and H. H. Kopman on April 6, 1895, and October 17, 1896. H. H. Kopman found it also at Carlisle, October 4 and 5, 1917; at Simmesport, August 31 to September 2, 1917; at Melville, August 29 to September 3, 1917; at Saint Martinville, August 10, 1917; and at Thomastown, July 20, 1896. Individuals were seen at Grand Isle on April 10, 11, and 21, 1937, by Ambrose Daigre. J. S. Campbell regards it as a fairly common spring transient in Bienville Parish. All the specimens of this species from Louisiana examined prove to belong to the present subspecies. If the typical Northern Waterthrush occurs in the State, as is probable, it is doubtless but a rare transient.

LOUISIANA WATERTHRUSH

Seiurus motacilla (Vieillot)

The Louisiana Waterthrush is a rare summer resident, from March 15 to October 10, in northern and central eastern Louisiana; recorded north to Monroe, Bienville Parish, and Mansfield; west to Mansfield; south to Carr's Creek north of Baton Rouge, and Bains; and east to Bains, Como in Franklin Parish, and Tallulah. It is also a rare transient in southern Louisiana, from March 19 to May 1, and from August 18 to September 30, recorded from Mandeville, Harvey in Jefferson Parish, and New Orleans, west to Iowa (La.) It breeds in April and May; and there are records of eggs from April 28 to May 7.

A specimen of this waterthrush seen in the museum of Tulane University is from Como in Franklin Parish,

collected on July 24, 1899, by George E. Beyer; and another in the Biological Survey is from New Orleans, taken, July 31, 1935, by T. D. Burleigh. Andrew Allison also obtained it in Jefferson Parish, April 2, 1898; H. H. Kopman, on March 30, 1904; and E. S. Hopkins, at Harvey in Jefferson Parish, September 14, 1924. George H. Lowery, Jr., in the region about Monroe considers this species a summer resident from about March 23 up to the first of October. A. H. Howell saw a pair of Louisiana Waterthrushes on May 1, 1907, at Mansfield; and E. R. Kalmbach noted it frequently in low woods ten miles south of Tallulah, June 13 to July 13, 1924. J. S. Campbell says that it is a summer resident from March 24 to October 10 in most parts of Bienville Parish, where he found nests containing eggs on April 28, 1933, and May 7, 1933. George H. Lowery, Jr., states that it is a summer resident and breeds in the Baton Rouge region, where it arrives in spring about March 15; he saw it at Carr's Creek, 25 miles north of Baton Rouge on July 8, 1932. S. C. Arthur observed it on June 18, 1921, between Bayou Sara and Oakley, in West Feliciana Parish, where J. J. Audubon had found it in June, 1821.

Vernon Bailey saw several in the woodlands about Iowa (La.), April 6 to 9, 1899; and H. H. Kopman, two at Mandeville, August 18, 1917. Edward Butler registered its spring arrival at Bains in 1922 on April 11; and stated that it bred there. At New Orleans, Andrew Allison reported its arrival in 1899 on April 10; in 1898 on April 2; in 1904 on March 19; and George E. Beyer met with many individuals there on September 30, 1893.

KENTUCKY WARBLER

Oporornis formosus (Wilson)

This beautiful warbler derives its name from the fact that Alexander Wilson, who discovered it, found it first in the State of Kentucky. It is in color olive green above, with a black forehead and broad black stripe across the lower part of the face, a broad bright yellow line through the eye, and an entirely yellow lower surface. It may readily

be distinguished from the male of the Hooded Warbler, which has similar colors but a different distribution of them, by the fact that its forehead is not yellow, the whole head back of the forehead is olive green or yellow, instead of black, the throat is yellow instead of black, also, the tail has no white markings.

The Kentucky Warbler is a bird of dense thickets, and woodlands, particularly those of the bottomlands and along streams, and it occurs also in the cypress swamps. Its ringing song somewhat suggests that of the Carolina Wren, although it is not so loud. It rarely ascends to the tops of the trees, but lives mostly in the lower parts of the forest or in the bushes of the thickets.

In food habits it is similar to many of the other species of warblers, and lives chiefly on insects, such as caterpillars, beetles, and bugs.

Its nest is built on the ground, or occasionally in bushes, but not high above the ground. This is usually well concealed by the surrounding vegetation, whether at the base of a bush or tree, or on a low branch of a bush. This structure is usually of leaves, weed-stalks, roots, grasses, and bark, is rather bulky, and lined with rootlets, leaves, and horsehair. The four or five eggs are white, with spots of dark brown and dull lilac.

The Kentucky Warbler is a rather common summer resident, from March 19 to October 19, in the greater part of Louisiana, excepting the Gulf Coast region of the southern part of the State, but is most frequently observed in the southeastern part; reported north to Monroe, Bienville, and Caddo Parish; west to Caddo Lake, Cross Lake, Mansfield, Sandel, and Orange (Texas); south to Sulphur, Iowa (La.), Port Barre, Lottie, Ervinville, Harvey Canal, Jefferson Parish, and New Orleans; and east to Pearl River, Folsom, Bayou Sara, West Feliciana Parish, Trout, and the Singer Preserve in Madison Parish. It breeds in April and May; and there is record of young in the nest on May 17.

The writer has seen specimens from Iowa (La.), collected on April 8, 1899, by Vernon Bailey; and from Grand Isle, obtained, April 5, 1931, by E. S. Hopkins, and April 14, 1937, by Ambrose Daigre; New Orleans, May 30, 1935, by T. D. Burleigh; also in the museum of Tulane University, from New Orleans, taken, April 6, 1895. The writer likewise identified a specimen sent from the Ship Shoal Lighthouse, which struck the light during the spring of 1907. E. R. Kalmbach shot a single male south of Gueydan, April 11, 1926; A. H. Howell obtained individuals at Mansfield, April 27 and 29, 1907; H. E. Hubert at Harahan City, April 21, 1916; and C. S. Galbraith at Mandeville, May 1, 1889.

J. S. Campbell reports this warbler's arrival at Bienville, April 10, 1932, and its departure on September 15 of the same year, in which locality he finds it common and breeding. Robert Butler in 1933 indicated that it bred in West Feliciana Parish; and H. H. Kopman noted its arrival at Folsom, March 26, 1923; and at New Orleans, March 26, 1905. Andrew Allison saw it at New Orleans on October 19, 1895; and found it common at Lobdell, April 11, 1903. George H. Lowery, Jr., records its arrival near Baton Rouge on March 19, 1933, and April 6, 1934. G. Kohn obtained a specimen at Amite on May 30, 1888. The writer observed it common on Honey Island in Pearl River east of the town of Pearl River, June 27, 1933; and met with a single individual along the Harvey Canal between Little Barataria Bayou and New Orleans on June 10 of the same year. He saw it in a cypress swamp near Lotie and at Ervinville on June 15, 1933; also at Port Barre, June 21, 1933; at Trout, June 16, 1933; on the Singer Preserve in the heavy bottomland forest along the Tensas River 13 miles southwest of Tallulah, June 16, 1933; at Caddo Lake and Cross Lake, June 18, 1933; at Sandel, June 19, 1933; and at Sulphur on June 20, 1933. J. S. Campbell regards it as a common summer resident at Bienville where he found nests as early as April 18, 1934, and one containing young on May 17.

CONNECTICUT WARBLER*Oporornis agilis* (Wilson)

The Connecticut Warbler is a very rare April and October transient in northern Louisiana.

There are but two records for the State: an individual seen at Monroe, October 9, 1931, by George H. Lowery, Jr., and another observed by Mr. and Mrs. George H. Lowery, Sr., also at Monroe, on April 27, 1936.²³⁸

MOURNING WARBLER*Oporornis philadelphia* (Wilson)

The Mourning Warbler is a rare spring and autumn transient in Louisiana, reported from New Orleans to Oak Grove in West Carroll Parish and Monroe.

Andrew Allison saw this species at New Orleans on October 7, 1896; George H. Lowery, Jr., observed a single individual at Monroe on April 20, 1931; Mr. and Mrs. George H. Lowery, Sr., another at the same locality on April 27, 1936; and J. S. Campbell saw the species at Oak Grove on April 18, 1933. These are the only actual records for the State, but M. A. Frazer reports²³⁹ that on April 2, 1881, when he was on a vacation cruise on the Gulf of Mexico at a point 30 miles south of the mouth of the Mississippi River, large numbers of small birds were observed, among them many individuals of the Mourning Warbler. While this is not an actual record within the State boundaries, it is of interest in this connection.

MARYLAND YELLOWTHROAT*Geothlypis trichas trichas* (Linnaeus)

This little warbler is one of the best known of all the members of its family. The male is olive green above with yellow throat, conspicuous black mask, and whitish forehead which serve to distinguish him readily from all the other birds of the region, although the dull colored olive green and yellowish female is not so readily identified.

²³⁸ Bull. La. Poly. Inst., Vol. XXIX, No. 4, November, 1931, p. 44.

²³⁹ Bull. Nutt. Ornith. Club, Vol. VI, No. 4, October, 1881, p. 251.

Its song, too, is characteristic, being a vigorous performance, sometimes described as 'witchery, witchery, witchery'. The call note is a rather sharp chip, somewhat prolonged.

The bird inhabits all kinds of thickets, cane brakes, cypress swamps, and similar places, except in the very heavy forests, and it invades also the areas of reeds and tall grass in the solid forests. It is an active bird and at times more or less inquisitive. Its abundance, together with its conspicuous song, have combined to make it a rather well-known bird among the smaller and less conspicuous thicket inhabitants.

The Maryland Yellowthroat is another one of our most useful birds, by reason of its destruction of injurious insects, particularly caterpillars, like fall web worms and canker worms, to which diet it adds grasshoppers, plant lice, flies, beetles, mice, ants, and the eggs and larvae of many other insects.

The nest of this bird is placed usually either on the ground at the base of a bush or clump of weeds or grass, or in bushes or briars as high as several feet above the ground. It is a rather bulky and rather loosely constructed abode, composed of grass stems, bark shreds, leaves, and grasses, and lined with rootlets, fine grasses, or hairs. It contains usually from three to five eggs of the usual warbler pattern, creamy white, and spotted and streaked with reddish brown and lilac.

The Maryland Yellowthroat is a common permanent resident in southwestern Louisiana, and a summer resident, from March 28 to September 21, in northern Louisiana; recorded breeding north to Tondal in Madison Parish, Mer Rouge, Crew Lake, Monroe, Ruston, Bienville, and Caddo Lake; west to Lake Hayes (ten miles west of Shreveport), Cross Lake, Shreveport, Curtis, Taylortown, Elm Grove, McDade, Crichton, Mansfield, Natchitoches, Hagewood, Robeline, Many, Fort Jesup, Florien, Sandel, Hornbeck, Lake Charles, Vinton, Toomey, and Cameron Farm 14 miles south of Vinton; south to Cameron, Grand Chenier, Avery Island, Rainey Wild Life Sanctuary, and

Vermilion Bay; and east to Saint Martinville, Sunset, Alexandria, Jena, Utility, Frogmore, Lake Saint John, Saint Joseph, Quimby, Thomastown, and the Singer Preserve 13 miles southwest of Tallulah in Madison Parish, and Tallulah. It is also a transient in southeastern Louisiana. It breeds chiefly in April and May; and there are records of eggs from April 25 to May 3.

Specimens obtained by T. D. Burleigh came from Shreveport, May 16, 1937; and Baton Rouge, November 28, 1937; and by H. E. Hubert, from Harahan City, April 22, 1916. A. M. Bailey collected one bird, undoubtedly on its migration, at Pilot Town in the Mississippi River Delta, October 22, 1928. J. S. Campbell considers this yellowthroat a very common summer resident about Bienville, where it arrives about March 28; and he discovered there a nest with eggs on April 25, 1933. Vernon Bailey found this yellowthroat common and breeding at Mer Rouge, June 2 to 7, 1892; and E. R. Kalmbach noted it everywhere common about Tallulah, June 13 to July 13, 1924. H. H. Kopman reported it also from Thomastown, July 13 to 28, 1896; and the writer observed it at Tallulah, June 17, 1933; also on the Singer Preserve in the heavy bottomland forests along the Tensas River on the same day. The writer detected it likewise at Tendal on the Tensas River in Madison Parish, and at Crew Lake, June 17, 1933; at Quimby, Saint Joseph, Lake Saint John, Frogmore, Utility, Jena, and Alexandria, June 16, 1933; Sunset and Avery Island, June 21, 1933. At Avery Island, December 28, 1932, he observed a single Maryland Yellowthroat that was probably this form, as were also two seen at Grand Chenier, December 31, 1932. W. L. McAtee listed the Yellowthroat as fairly common at Cameron, November 28 to December 6, 1910; and in the Vermilion Bay region, February 23 to March 3, 1910. H. H. Kopman found it fairly common at Saint Martinville, August 9 to 12, 1917; and J. W. Trahan reported its breeding on Vermilion Bay in 1915. On June 18, 1933, the writer noticed this species at Caddo Lake, Cross Lake, Shreveport, Curtis, Taylortown, McDade, Elm Grove, and Crichton; and on the following day at Many, Florien, San-

del, Hornbeck, and also at Natchitoches, Fort Jesup, Robeline, and Hagewood; while on June 20, 1933, he noted it at Lake Charles, Vinton, and Toomey.

Owing to lack of sufficient specimens the southeastern limits of the breeding range of this subspecies in Louisiana given above should be regarded as possibly subject to revision in the light of future investigations.

NORTHERN YELLOWTHROAT

Geothlypis trichas brachidactyla (Swainson)

The Northern Yellowthroat is a winter resident, from October 8 to April 1, probably fairly common, occurring in at least central and southern Louisiana.

The only records for the State are the following specimens that the writer has examined: Lecompte, January 11, 1908, collected by A. H. Howell; Belair, April 1, 1904, obtained by Ned Hollister; New Orleans, January 24, 1936, also a male, November 8, 1937, and one on November 27, 1937, by T. D. Burleigh; Lewisburg, a specimen in the museum of Tulane University, shot on October 8, 1874; birds in the museum of the Louisiana Department of Conservation at New Orleans, collected in Jefferson Parish, February 6, 1932, at Grand Isle, probably during the winter of 1932; and a single bird with no other data than that it was taken in Louisiana.

ATHENS YELLOWTHROAT

Geothlypis trichas typhicola Burleigh

This newly described subspecies²⁴⁰ is only a casual winter visitor from December 7 to April 21, in southern Louisiana. Up to the present time the only records are a single adult female collected by A. M. Bailey, at Chenier au Tigre on March 10, 1931; a male taken by Ambrose Daigre, at Grand Isle, on April 21, 1936; and four single birds obtained by Thomas D. Burleigh at New Orleans, on December 7, 1935, and December 28, 1936; at Grand Terre, April 15, 1937; and at Grand Isle, on September 17, 1935.

²⁴⁰ *Geothlypis trichas typhicola* Burleigh, Proc. Biol. Soc. Wash., Vol. XLVII, February 9, 1934, p. 21.

FLORIDA YELLOWTHROAT

Geothlypis trichas ignota Chapman

The Florida Yellowthroat is a common, locally abundant, permanent resident in southeastern Louisiana; reported north to Covington, Ponchatoula, Clinton, Saint Francisville, and Bains; west to Valverde in Pointe Coupee Parish, Krotz Springs, Lottie, Livonia, Ervinville, Cinclore Plantation in West Baton Rouge Parish, Hohen Solms, Donaldsonville, Vacherie, Raceland, Houma, Dulac, and Four Bayou in Terrebonne Parish; south to Four Bayou, Grand Isle, Ronquille Bay, and Pilot Town in the Mississippi River Delta; and east to the Delta Duck Club on Octave Pass in the Mississippi River Delta, Main Pass, Breton Island, Junior, Carlisle, Waggaman, New Orleans, Chef Menteur, Lake Borgne, Lake Catherine, Rigolets, Slidell, Mandeville, and Madisonville.

The writer has seen specimens of this yellowthroat from the localities mentioned below, but owing to the lack of birds from the outlying districts it is not now possible definitely to delineate the western limits of the range of this subspecies. It probably occurs, however, at least as far west as the valley of the lower Mississippi River, as above indicated. The specimens examined are from New Orleans, collected, April 10, 1890, and May 1, 1890, by George E. Beyer; November 25, 1932, by Glenn Hopkins; November 26, 1882, by R. W. Shufeldt; November 12, 1936, April 19, 1935, February 17, 1937, August 2, 1936, May 1, 1935, June 1, 1935, June 1, 1936, December 2 and 5, 1936, and December 21, 1935, by T. D. Burleigh; from Greenville near New Orleans, May 1, 1890, by George E. Beyer; from the shore of Lake Pontchartrain near New Orleans, October 30, 1889, by Gustave Kohn; Mandeville, April 15, 1889, C. S. Galbraith; Bayou Ferman, November 24, 1916, A. M. Bailey; Jefferson Parish, February 2 and 6, 1932, E. S. Hopkins; Pecan Grove, March 9, 1890, George E. Beyer; Houma, May 11, 1936, by T. D. Burleigh; Madisonville, June 26, 1888, Covington, May 22, 1888, by Gustave Kohn;

Grand Isle, May 2, 1932, and June 2, 1933, by Ambrose Daigre; and Chenier au Tigre, January 2, 1934, A. M. Bailey. Other specimens not now examined, were obtained by A. M. Bailey at Pilot Town in the Mississippi River Delta, October 24, 1922, and October 22, 1928; Chenier au Tigre, March 10, 1931; and Breton Island, June 9, 1930; and by Henry W. Henshaw at Lake Borgne, April 1, 1870, and March 9, 1870.

Edward Butler reported it breeding at Saint Francisville in 1915, and at Bains in 1916; George E. Beyer, at Clinton and Madisonville in 1891; and K. Geist, at Hohen Solms in Ascension Parish in 1915 and 1916. H. H. Kopman found it between Donaldsonville and Vacherie, July 12 to 14, 1917; at Valverda in Pointe Coupee Parish, breeding in 1915; at Junior, August 4 and 5, 1917; and noticed birds presumably of this race at Carlisle, October 4 to 5, 1917, at Covington, October 11, 1899, and at Ponchatoula, March 25 to 27, 1918. The writer ascertained this species to be exceedingly abundant in the marshes along the bayous in Terrebonne and Jefferson parishes in June, 1933; on Bayou Dupont, Dupres Canal, Little Barataria Bayou, Bayou Barataria, and Bayou Cutler on June 10; and at Des Allemands, Raceland, and Houma, June 23 of the same year. It was numerous at Dulac on Grand Caillou Bayou from Dulac to Four Bayou, and on Four Bayou in Terrebonne Parish, June 22, 1933. He noted it at Ronquille Bay, June 8, 1933, and all along the way from New Orleans to Rigolets, at Rigolets and Slidell on June 27, 1933. It was common also at Waggaman, June 23, 1933; at Ervinville, Lot-tie, and Krotz Springs, June 21, 1933; at Livonia, June 15, 1933; and on Main Pass in the Mississippi River Delta on June 7, 1933.

The writer observed birds probably of this subspecies at the Delta Duck Club on Octave Pass in the Mississippi River Delta, January 19, 1928, and January 21, 1932; also along the lower Mississippi River from the Pass a Loutre Hunting Preserve to Ostrica, January 23, 1932.

YELLOW-BREASTED CHAT

Icteria virens virens (Linnaeus)

This so-called warbler is perhaps one of the most distinctive of our small birds. Olive green above with a blackish line through the eye, a white eyebrow, yellow throat and breast, and white abdomen, and in size much larger than the other warblers, it stands out as a bird of distinction, easily identified and exceedingly interesting in its life history. It is rather a retiring bird, living chiefly in tangled undergrowths, whether on the border of woodlands or elsewhere, both on uplands and lowlands, and the more impenetrable the thicket the better it is liked by the Yellow-breasted Chat. It is, however, rather inquisitive and can be attracted by imitating its notes or by making an unusual squeaking noise. It rarely ventures far from its chosen haunts, and if you are to study the Chat you must invade its domain.

Perhaps the most remarkable of the Chat's characteristics is its vocal performance, which is entirely different from that of any of the true warblers. It has at its command a wide variety of calls, whistles, and harsh notes, which it sometimes uses separately and sometimes strings together to make a more or less connected performance. It frequently sings at night as well as during the daylight hours, and continues its vocal activity nearly always until the middle of summer. Its most remarkable performance is to launch itself from near the top of a small tree out into the air, when with wings and head held high, legs hanging down, and tail wagging, it sings rapidly and loudly and gradually settles down back into the thicket.

The food of this remarkable bird consists of insects of various kinds, which include ants, beetles, wasps, and different kinds of caterpillars, many of them injurious. Considerable wild fruit, such as blackberries, elderberries, and blueberries, is also taken.

The nest of the Yellow-breasted Chat is bulky though rather strongly made of strips of bark, leaves, grasses, and

similar materials, and lined with finer grasses. It is placed in a bush or thicket, sometimes in a small tree or vine, and is ordinarily well concealed though not high from the ground. The eggs are usually four, white, speckled and blotched with various shades of brown and lavender.

The Yellow-breasted Chat is locally a fairly common summer resident, from April 4 to September 29, in most of Louisiana except the Gulf Coast region; reported north to Tendam, Holly Ridge, Rayville, Crew Lake, Monroe, Bienville, and Shreveport; west to Lake Hayes (ten miles west of Shreveport), Cross Lake, Lucas, Gayle, Caspianna, Frierson, Crichton, Mansfield, Natchitoches, Hagedwood, Robeline, Fort Jesup, Sandel, and Toomey; south to Toomey, New Iberia, Avery Island, Thibodaux, Houma, and Diamond; and east to Belair, New Orleans, Clinton, Saint Francisville, Bains, Jena, Somerset, Quimby, the Singer Preserve in Madison Parish, and Tallulah. It breeds from April to June; and there are records of eggs from May 2 to June 9.

The writer has seen specimens of the Yellow-breasted Chat in the museum of Tulane University from Lewisburg, May 10, 1873, and September 15, 1873; from New Orleans, April 27, 1890, May 1, 1890, May 6, 1897, and September 1, 1890; and in the Biological Survey, collected by T. D. Burleigh, also from New Orleans, May 22 and 27, 1935, and June 24, 1936. George H. Lowery, Jr., collected a specimen at Pine Grove on April 20, 1937. J. S. Campbell considers it a common summer resident at Bienville, where he has found a number of nests, one on May 2, 1934, and where he noted the bird's departure in 1932 on September 28. A. H. Howell detected it at Mansfield, April 26 to May 3, 1907; and the writer observed it at Shreveport, Cross Lake, and Crichton, June 18, 1933; at Natchitoches, Hagedwood, Robeline, Fort Jesup, and Sandel, June 19, 1933; and at Toomey, June 20, 1933. At Tallulah, E. R. Kalmbach met with it June 13 to July 13, 1924; and the writer ascertained its presence on June 17, 1933, on the Singer Preserve along the Tensas River, 13 miles southwest of

Tallulah, where, however, it was not very numerous. He noticed it also at Quimby, Somerset, and Jena, June 16, 1933; at Tendal on the Tensas River, Holly Ridge, Rayville, and Crew Lake, June 17, 1933; and at Alexandria, June 16, 1933. Edward Butler listed it as breeding at Saint Francisville in 1915; Robert Butler, at Bains in 1932, in which year its spring arrival was on April 4; George E. Beyer, at Clinton in 1891; and A. K. Fisher obtained birds of this species at New Orleans, June 1, 1886. H. L. Ballowe saw it at Diamond, April 29, 1902; and E. R. Kalmbach, at Thibodaux, May 25, 1919. The writer found it at Houma, June 23, 1932, and H. H. Kopman stated it to be fairly common in thickets at New Iberia, from May 27 to June 9, 1918. Eggs in the United States National Museum were collected at Grand Coteau, June 1 and 7, 1887; and at Belair by Andrew Allison, June 9, 1904.

HOODED WARBLER

Wilsonia citrina (Boddaert)

The Hooded Warbler is a summer resident, from March 8 to November 2, fairly common in summer, more frequent during migrations, throughout most of Louisiana, excepting possibly the Gulf Coast region; reported north to Monroe and Bienville Parish; west to Sandel and Newton; south to New Iberia, Bayou Chene, Houma, and Diamond; and east to New Orleans, Lake Borgne, Pearl River, Mandeville, Madisonville, Hammond, Clinton, Saint Francisville, Bains, Jena, Quimby, Thomastown, and the Singer Preserve in Madison Parish. It is also at least a transient in the Gulf Coast region, south to Cameron Farm in Cameron Parish 14 miles south of Vinton, Gueydan, Southwest Reef, Grand Isle, South Pass, and West Rigolets. It breeds chiefly in April and May, and there are records of eggs from April 24 to May 11.

The writer has seen specimens of the Hooded Warbler from Marrero, obtained on April 24, 1937, by Winston E. Nolan; at Pearl River, August 13, 1935, and New Orleans, April 27, 1935, and July 21, 1935, by T. D. Burleigh; also

by other collectors from New Orleans, taken on April 11, 1896; Jefferson Parish, April 20, 1895; and Grand Isle, April 5, 1931, and May 13, 1933; from Southwest Reef, one which struck the lighthouse there, April 14, 1902; and one from the South Pass Lightship near Port Eads, which struck on April 14, 1902. E. R. Kalmbach observed this warbler at Cameron Farm, May 15, 1919, and collected a single individual in Cameron Parish, May 12, 1919; also another south of Gueydan, April 11, 1926; G. Kohn collected it at Amite on May 31, 1888; Ambrose Daigre at Grand Isle, April 8 and 15, 1936, and April 7, 15, 18, and 22, 1937; George H. Lowery, Jr., at the same place on April 6, 1936; C. S. Galbraith at Mandeville, April 1, 1889; A. M. Bailey at Harahan City, April 22, 1917, and at New Orleans, April 15, 1917; and S. Ward at Carr's Creek in Jackson Parish, April 25, 1937. H. H. Kopman saw it at Bayou Chene, August 29 to 30, 1917; between Donaldsonville and Vacherie, July 12 to 14, 1917; at Grand Bayou in Assumption Parish, fairly common, May 10 and 11, 1918; at New Orleans, March 8 and October 10, 1896; at Hammond, April 26, 1918; and at Mandeville in second growth hardwood forests, August 18, 1917. H. L. Ballowe reported its spring arrival at Diamond, where it is a summer resident, on April 2, 1902. George E. Beyer stated in 1891 that it bred at Madisonville and Clinton; and Edward Butler that it was breeding at Bains in 1916. George H. Lowery, Jr., says that it breeds at Baton Rouge, and gives spring arrival dates as March 22, 1933, and April 20, 1934. Henry W. Henshaw collected it at Lake Borgne, April 6, 9, and 10, 1870; Andrew Allison in Jefferson Parish, March 26, 1898; and E. S. Hopkins at Harvey, September 9 and 14, 1924.

H. H. Kopman noted it fairly common at Thomastown in Madison Parish, July 13 to 28, 1896; and the writer found it extraordinarily numerous and one of the most abundant birds in the heavy bottomland forests of the Singer Preserve along the Tensas River 13 miles southwest of Tallulah on June 17, 1933. He met with it also at

Quimby, Jena, Pollock, and Alexandria, June 16, 1933; at Krotz Springs, June 21, 1933; at Houma, June 23, 1933; on Honey Island in Pearl River, June 27, 1933; at Newton and Sandel in western Louisiana, June 19, 1933. J. S. Campbell regards it as a fairly common summer resident in Bienville Parish.

It is of interest in this connection that John James Audubon discovered this warbler near Saint Francisville in 1821, and there collected on July 1 the specimen that he used as the subject of the drawing of the bird that he described as a new species of warbler, *Muscicapa selbii*, not knowing that it had previously been made known to science.²⁴¹

WILSON WARBLER

Wilsonia pusilla pusilla (Wilson)

The Wilson Warbler is a rare spring and autumn transient, from April 16 to May 15, and in October, in eastern and central Louisiana.

There are few definite records of this species for the State. It was seen at Monroe by George H. Lowery, Jr., on October 1, 1930, April 26, 1931, October 3, 1931, and many times between April 16 and May 15, 1931. It was common also during the autumn of 1931 in that vicinity, and 15 were noted by him on October 2 along the Ouachita River.²⁴² Mr. and Mrs. George H. Lowery, Sr., observed it also at Monroe on April 27, 1936. It has been reported from Saint Helena Parish, but definite data are lacking.²⁴³

CANADIAN WARBLER

Wilsonia canadensis (Linnaeus)

The Canadian Warbler is a rare spring and autumn transient, from April 27 to May 9, and from August 13 to September 7, in central and eastern Louisiana, from Saint Francisville and Monroe, west to Bienville.

²⁴¹ Birds Amer., folio edition, Vol. I, 1827, pl. IX; Ornith. Biog., Vol I, 1831, p. 46.

²⁴² Bull. La. Poly. Inst., Vol. XXIX, No. 4, November, 1931, pp. 10, 45.

²⁴³ Arthur, Bull. La. Dept. Cons., No. 5, January, 1918, p. 71.

John James Audubon was the first to record this species from Louisiana, and he collected near Saint Francisville on August 13, 1821, the specimen that he described as a new species, *Muscicapa bonapartii*.²⁴⁴ Mrs. V. S. Garnett reported the Canadian Warbler at Monroe, May 9, 1928;²⁴⁵ and George H. Lowery, Jr., found it fairly common during migrations at that locality. He has listed it there on the following dates: April 27, 1931, May 4, 1930, and September 4, 1930; and Mr. and Mrs. George H. Lowery, Sr., observed it on April 27, 1936. J. S. Campbell reported it from Saline Creek swamp near Bienville April 28, 1932, and from Lucky in Bienville Parish, May 8, 1933.

AMERICAN REDSTART

Setophaga ruticilla ruticilla (Linnaeus)

Few of our small birds are better known or more deservedly admired than the American Redstart. Its black plumage in the male set off by its orange tail- and wing-patches, and orange sides, make it conspicuous and easily identified; and even the female, in which the black of the male is replaced by brown and the orange by yellow, is easily distinguished in a horde of migrating warblers. In addition, its interesting behavior in flitting from branch to branch and flirting its wings and tail, are so characteristic that this alone would make it stand out as a peculiar bird among its relatives.

It frequents almost all kinds of woodlands and thickets, and bushes and trees in cultivated areas, even in the streets of the towns. It is one of the most active of the small birds and behaves more like a flycatcher than most warblers, darting out to catch its prey on the wing as readily as picking it from the leaves and branches of the trees. Its flight is quick and rapid but usually not long sustained.

The bird feeds not only in the trees but also often on the ground. It associates freely with the other warblers, particularly during the migration season.

²⁴⁴ *Birds Amer.*, folio edition, Vol. I, 1827, pl. V; *Ornith. Biog.*, Vol. I, 1831, p. 27.

²⁴⁵ *Bull. La. Dept. Cons.*, No. 20, December, 1931, p. 524.

The Redstart has a great many different songs, the most common of which is a rather lisping monotonous trill somewhat like that of the Black-and-White Warbler, but usually ending with a more or less definitely emphasized descending note. It also has a rather inconspicuous call note.

As would be expected from its habits it lives largely on insects, such as caterpillars, moths, gnats, flies, bugs, grasshoppers, and beetles.

The nest is placed usually not high from the ground, most often in a tree or sapling, in an upright crotch although sometimes on horizontal branches. It is a rather compact mass similar in appearance to some nests of the Yellow Warbler, and is composed of bark strips, grasses, various other plant fibers, and lined with rootlets, fine grasses, hairs, and sometimes feathers. The ordinarily four eggs are white or greenish white, marked with spots and blotches of brown and lavender. Young Redstarts when first able to fly resemble closely the adult female.

The American Redstart is a rare summer resident, from April 7 to October 27, in northern, central eastern, and southeastern Louisiana; reported north to East Carroll Parish, West Carroll Parish, Mer Rouge, Monroe, Bienville, Minden, and Caddo Lake; west to Shreveport, Mansfield, Black Lake in Natchitoches Parish, Natchitoches, Lottie, Valverde in Pointe Coupee Parish, and Ervinville; south to Little Barataria Bayou and Diamond; and east to the Harvey Canal near New Orleans, Westwego, Harvey, New Orleans, Pearl River, Madisonville, Bedico River, Clinton, four miles north of Quimby, Singer Preserve in Madison Parish, and Tallulah. It is also a transient, from April 7 to May 10, in southwestern Louisiana and in the Gulf Coast region of the southern part of the State, south to Cameron Farm in Cameron Parish 14 miles south of Vinton, Calcasieu Pass, Gueydan, New Iberia, and Grand Isle.

The writer has seen specimens of this bird from New Orleans, taken, October 6, 1888; Bedico River, July 23, 1888, and August 22, 1890, collected by George E. Beyer:

Bedico Swamp, August 21, 1890, George E. Beyer; and Bogalusa, June 5, 1935, by T. D. Burleigh. These specimens and others from outside the State indicate that this is the breeding subspecies of the American Redstart in Louisiana; and the sight records of redstarts are placed here, though some of them may belong under the western race, which can not be satisfactorily distinguished in the field.

H. L. Ballowe reported the arrival of this species at Diamond on April 20, 1902, and stated it to be a summer resident at that point. H. H. Kopman saw several individuals on June 6, 1915, at Valverda in Pointe Coupee Parish where they were undoubtedly nesting. George E. Beyer listed it as breeding at Clinton and Madisonville in 1891. The writer observed it at Westwego on June 23, 1933; along the Harvey Canal between Little Barataria Bayou and New Orleans, and along Little Barataria Bayou on June 10, 1933; also near the town of Pearl River, June 27, 1933; and at Lottie and Ervinville, June 15, 1933. Along Saline Creek near Bienville, J. S. Campbell found it throughout the summer of 1932, when it was evidently breeding there; he recorded its arrival on April 15, 1932, and its departure, October 15 of the same year; and he found it abundant in East Carroll Parish during June and July, 1933; also as a breeding bird in West Carroll Parish. Vernon Bailey saw two at Mer Rouge on June 6, and another that had been killed on June 4, 1892; and E. R. Kalmbach reported it from Tallulah, July 4, 1924. George H. Lowery, Jr., gives April 22, 1933, and April 28, 1934, as spring arrival dates at Baton Rouge. He also found this redstart abundant there during the last week of July, 1934. In the heavy bottomland forest of the Tensas River on the Singer Preserve, 13 miles southwest of Tallulah, this species was extraordinarily numerous when the writer visited this area on June 16 and 17, 1933. It was in full song all through these forests, and was one of the very most abundant of all the birds in the region. He noted it also four miles north of Quimby, June 16, 1933; at Natchitoches, June 19, 1933; and at Caddo Lake, June 18, 1933.

It was seen at New Orleans, April 8, 1900, by Andrew Allison; April 7 and 11, 1894, by George E. Beyer; and October 27, 1899, by H. H. Kopman. E. S. Hopkins collected it at Harvey on September 9, 1894. Specimens were taken at Calcasieu Pass in the spring of 1854, by G. Würdemann, and forwarded by him to the Smithsonian Institution. E. R. Kalmbach saw several at Cameron Farm, May 10, 1919, and in a cypress swamp south of Gueydan, April 29, 1925. Ambrose Daigre observed redstarts, probably this subspecies, at Grand Isle on April 7, 9, and 23, and on May 5, 1936; and on several days between April 6 and 22, 1937. A. H. Howell noticed it at Mansfield, April 27, 1907; and H. H. Kopman, at Shreveport, April 19, 1929.

WESTERN REDSTART

Setophaga ruticilla tricolora (Müller)

The Western Redstart is a spring and autumn transient, from April 8 to 25, July 22 to October 17, in southern, also doubtless in northern, Louisiana, probably fairly common, though there are not many actual records for the State.

The writer has identified a specimen in the museum of Tulane University, an early migrant taken on the Bedico River, July 22, 1888; four in the museum of the Louisiana Department of Conservation at New Orleans, collected at Grand Isle, April 8 and April 11, 1931, April 6 and 21, 1937, respectively; another in the State Capitol at Baton Rouge obtained also at Grand Isle on April 25, 1929; and several taken by T. D. Burleigh at New Orleans on August 2, 1936, and on the following dates in 1935; August 5, 10, 19, and 26, September 12 and 16, and October 1 and 17.

The American Redstarts that breed in the more northwestern parts of Canada seem to be subspecifically separable from the birds from eastern North America. This western race differs from the eastern form in smaller size, smaller orange or yellow wing-spot; in the female also in paler, more grayish, less conspicuously olivaceous, upper surface.

Average measurements of males are as follows: from Montana to Mackenzie, wing, 63.7 mm.; tail, 58.5; from eastern North America, wing, 65.7; tail, 57.4.

The geographic distribution of this hitherto unrecognized subspecies extends in the breeding season from northern British Columbia, Mackenzie, and central Manitoba, south to Oregon, northern Utah, and Wisconsin; it migrates through the greater part of the United States to winter in South America from French Guiana to Ecuador.

The original description of the American Redstart is applicable to the eastern form. There is a name available for the western race in *Motacilla tricolora* Müller,²⁴⁶ which is based on Buffon, i. e., D'Aubenton's Planches Enluminées, 1765, pl. CCCXCI, fig. 2. This figure represents apparently the Western Redstart, to judge by the very small orange speculum. The name of this bird, therefore, becomes *Setophaga ruticilla tricolora* (Müller).

Family PLOCEIDAE

ENGLISH SPARROW

Passer domesticus domesticus (Linnaeus)

The English Sparrow is an abundant permanent resident throughout Louisiana, excepting parts of the immediate Gulf Coast region; reported north to Tendam on the Tensas River in Madison Parish, Waverly, Delhi, Dunn, Holly Ridge, Rayville, Mer Rouge, Start, Crew Lake, Monroe, Bienville Parish, and Caddo Lake; west to Cross Lake, Shreveport, Elm Grove, Atkins, Logansport, Natchitoches, Robeline, Many, Anacoco, Leesville, De Ridder, Vinton, and Toomey; south to the Cameron Farm 14 miles south of Vinton, Sulphur, Lake Charles, Iowa (La.), Lacassine, Welsh, Roanoke, Jennings, Mermentau, Midland, Gueydan, Abbeville, lower Vermilion River, Rainey Wild Life Sanctuary, Rynella near Avery Island, Calumet Plantation near Patterson, Houma, Dulac on Grand Caillou Bayou, Grand

²⁴⁶ Linné Vollst. Natur.-Syst., Suppl. und Register Band, 1776, p. 175. ("Cajenne").

Isle, and Belair; and east to New Orleans, Chef Menteur, Slidell, Bains, Archie, Utility, Jonesville, Frogmore, Ferri-day, Lake Saint John, Waterproof, Saint Joseph, Newellton, Somerset, Quimby, Tallulah, and East Carroll Parish.

The writer found this foreign species in practically all towns and villages throughout the State, excepting in parts of the Gulf Coast region, and it occurs in many places even there, as, for instance, at Grand Isle, where Ambrose Daigre, reported it abundant from April 1 to 23, 1937.

Specimens examined are from New Orleans, taken September 20, 1935, by T. D. Burleigh; from Grand Isle, April 24, 1937, by Ambrose Daigre; and Buras, January 29 and 30, 1896, by George K. Cherrie.

The earliest introduction of this European bird into Louisiana took place at New Orleans in 1874, according to the statement of W. W. Edwards. Charles E. DePuy next reported it from Plaquemines Parish in 1880; L. E. Bentley found it at Donaldsonville in 1881; and Joseph W. Carew said that it appeared in Hahnville in 1881. It was also reported by the postmaster at Port Hudson, as occurring there in 1882. After that time it rapidly spread over the State.

Family ICTERIDAE

BOBOLINK

Dolichonyx oryzivorus (Linnaeus)

In Louisiana the Bobolink is known only as a migrant, and generally speaking is not so abundant a bird as it is in the more eastern states. In the spring the black male plumage set off by white and buff upper parts, makes it conspicuous, but in the autumn the streaked brown plumage of even the male, similar to that of the female, makes it look much like some of the other marsh inhabitants. It may be easily distinguished, however, from the Red-winged Blackbirds, and other birds with which it associates, by its note, which in the autumn is a single metallic 'chink'. During the migrations it inhabits largely the marshes.

but in the spring it is found also on the uplands. In its summer home it lives chiefly in meadows and other grass lands. In autumn it frequently in numbers visits the rice fields, which habit has earned for it the name 'rice bird'.

Its flight is strong and often long sustained, and at times the bird gathers into great flocks, sometimes separate, at times joining with flocks of Red-winged Blackbirds and Cowbirds. On the uplands and in the meadows it frequently perches on trees and bushes, though it often descends to the ground; but in the marshes it frequents the reeds and high grass.

Its song is a long, jingling, melodious performance that has, on account of its metallic character, a peculiar quality easily recognized when once learned. In Louisiana, however, its song is little known.

During the summer the food of this bird is chiefly insects, almost all of them injurious species, such as weevils, army worms, cutworms, grasshoppers, and other similar kinds, but at other times of the year it eats considerable grain and quantities of seeds. In certain places, as in the rice fields of the Atlantic Coast, it formerly fed during the autumn migration to a great extent on the ripening rice.

The Bobolink nests in the northern States and in southern Canada, and has one of the longest migration routes of any small birds, traveling as far south as Argentina to winter. It places its nest usually in grassy fields, meadows, or other grassy areas, on the ground, normally well concealed at the foot of a grassy tuft or small bush. The nest itself is of slight construction, and is composed of weed-stems, grasses, and rootlets, lined with similar materials of finer quality. The eggs are usually four to seven, of grayish or drab gray color, very much spotted and blotched with brown of various shades and with lavender. Owing to the well concealed character of the nest and the misleading actions of the parent birds, the nest of the Bobolink is exceedingly difficult to find, notwithstanding the fact that the singing male parent may be seen frequently perched on some

elevated point in the neighborhood of the field in which the nest is situated, or engaging in a remarkable flight song that is one of the characteristics of this bird. Altogether the Bobolink has an engaging personality and one that deserves much further study.

The Bobolink is a spring and autumn transient, from April 1 to May 29, casually to June 16, and from August 4, casually from July 13, to September 27, fairly common in southeastern Louisiana, rare in the central, western, and northern parts of the State; and recorded from Grand Isle, Diamond, New Orleans, Lake Pontchartrain, Mandeville, Madisonville, and Lobdell; west to Gayle in Caddo Parish, Cameron Farm in Cameron Parish, Kaplan, Crowley, Mermentau, Abbeville, Avery Island, Baldwin, and Ship Shoal southwest of Raccoon Point.

The writer has examined specimens of the Bobolink from Mandeville, taken, May 3, 1875, May 5 and 8, 1874; Grand Isle, April 1 and 25, 1933, May 13, 1931, and June 16, 1933, the last one by Ambrose Daigre; Spanish Fort near New Orleans, May 17, 1890; and New Orleans, April 24, 1893, and May 10, 1876. The writer saw a specimen from Ship Shoal Lighthouse which struck the light there during the spring of 1907; Andrew Allison collected specimens at Lobdell, May 1 and 2, 1903; and George H. Lowery, Jr., one at Baton Rouge on May 23, 1933.

George H. Lowery, Jr., has mentioned it from northern Louisiana, but without any definite record.²⁴⁷ J. K. Strecker, however, says that he observed large flocks at Gayle in April, 1925. H. H. Kopman noted it at New Orleans on May 29, 1915; George E. Beyer, on April 4, 1894; H. L. Ballowe, at Diamond, September 27; and W. W. Edwards, at Abbeville, August 4, 1884. C. A. Bibbins stated in 1884 that it was an abundant spring transient at Baldwin; and W. W. Edwards reported it at Abbeville as arriving in autumn about the first of September. C. A. Bibbins considered it a spring transient at Mermentau and saw it there

²⁴⁷ Bull. La. Poly. Inst., Vol. XXIX, No. 4, November, 1931, p. 46.

on May 1 and 15, 1887. E. R. Kalmbach found it at Cameron Farm in Cameron Parish, 14 miles south of Vinton, on May 12, 1919, and south of Kaplan on July 13, 1925. The species apparently is not common in that region, since at Crowley it has been only rarely observed. Apparently the Bobolink is now not as numerous in Louisiana as in former years.

EASTERN MEADOWLARK

Sturnella magna magna (Linnaeus)

The Eastern Meadowlark is a winter resident, from January to March 16, probably common, in northern, central, and southern Louisiana, reported north to Foster, and south to Lecompte and Avery Island.

Since this bird is not subspecifically identifiable in the field, the only certain records are specimens that have been examined. The writer has seen examples of this race from Foster, five miles east of Shreveport, five specimens, January 28 and 29, 1908, collected by A. H. Howell; Lecompte, a single bird, January 15, 1908, A. H. Howell; and another bird obtained by A. H. Howell at Clarks on January 7, 1908. There is also a specimen in the United States National Museum, taken at Avery Island by E. A. McIlhenny on March 16, 1895.

SOUTHERN MEADOWLARK

Sturnella magna argutula Bangs

The Meadowlark is one of the birds that on account of its resemblance to an Old World species has acquired a name that is misleading, since the bird, although it does inhabit meadows, is not a lark but is related to the American orioles and blackbirds. By its brown, more or less streaked plumage above, yellow throat and breast, and conspicuous black crescent on the lower throat, it is readily distinguished from all the other birds that are found in Louisiana. It is a bird of the open country, rather than of the woodlands, and is found in all kinds of prairies and fields, but not in deep woodlands. Although it is a bird of

the ground it is fond of perching on trees, bushes, as well as fences and telegraph poles or wires. Its flight is strong, rapid, and usually direct. It sometimes gathers into loose companies of considerable size. On the ground it walks rather deliberately and dignifiedly.

It has a harsh guttural call and a delightfully plaintive song. The latter is uttered often from a vantage point of telegraph pole or treetop, but also from the ground, sometimes on the wing.

Its food is very largely insects and similar animal matter. It is fond of many of the insects that are injurious to man, such as cutworms, hairy caterpillars, and grasshoppers, crickets, cotton-boll weevils, and other beetles. Most of the vegetable food of the Meadowlark, which is taken at times of the year when insects are more difficult to obtain, consists of weed seeds and waste grain.

The nest of the Meadowlark is placed on the ground in a meadow or other grassy land and is usually well concealed. It is often arched over so that the entrance is at the side. It is composed of weed-stalks and grasses, and lined with finer similar materials. The usually five eggs are white, with spots and blotches of brown and lavender.

While the Southern Meadowlark is a common permanent resident, it in many places increases in numbers considerably when in the autumn the migrating birds from farther north drift into Louisiana, and in places at such times the bird is very abundant.

The Southern Meadowlark is a permanent resident, common and generally distributed in favorable localities, throughout practically all of Louisiana; reported north to Lake Providence, Oak Grove in West Carroll Parish, Prairie Mer Rouge, Start, Crew Lake, Monroe, Bienville Parish, Shreveport, and Belcher; west to Cross Lake, Curtis, Taylortown, Elm Grove, McDade, Atkins, Gayle, Caspianna, Frierson, Mansfield, Natchitoches, Robeline, Fort Jesup, De Ridder, Longville, Gillis, Lake Charles, Sulphur, Vinton, Toomey, and Cameron Farm 14 miles south of Vinton

in Cameron Parish; south to Calcasieu Pass, Calcasieu Lake, Grand Chenier, mouth of the Mermentau River, lower Vermilion River, Rainey Wild Life Sanctuary, Chenier au Tigre, Marsh Island, Dulac on Grand Caillou Bayou, Little Go-to-Hell Bayou in Terrebonne Parish, and Grand Isle; and east to Diamond, Junior, Savoie, Phoenix, Algiers, New Orleans, Caernovan, The Rigolets, Slidell, Mandeville, Madisonville, Covington, Ponchatoula, Hammond, Hackley, Saint Francisville, Bains, Archie, Utility, Jonesville, Ferri-day, Lake Saint John, Waterproof, Newellton, Quimby, Thomastown, and Tallulah. It breeds from March to July; and there are records of eggs from March 31 to June 20.

The specimens of meadowlarks examined in the present connection indicate that the southern race, *Sturnella magna argutula*, is the breeding bird of all Louisiana. The writer has seen examples from Belcher; February 3, 1908, A. H. Howell; Natchitoches, January 17, 1908, A. H. Howell; Prairie Mer Rouge, 1853, collected by J. Fairie; Lecompte, January 13, 1908, A. H. Howell; Lafayette, May 23 and 24, 1892, R. J. Thompson; Slidell, October 28, 1908, A. H. Howell; Baton Rouge, October 1, 1936, J. E. Younger; New Orleans, December 7, 1935, T. D. Burleigh; Grand Isle, June 22, 1866, and April 14, 1937; Avery Island, June 10, 1895, E. A. McIlhenny; Iowa (La.), April 8, 1899, Vernon Bailey; and Leedyburg, January 2, 1926, Arthur Svihla. It was also obtained by J. D. Figgins at Cameron Farm in Cameron Parish, June 21, 1919; and by S. Ward at Grand Isle, June 14, July 12, 22, and 24, 1937.

The writer found this subspecies very numerous on the prairies of Calcasieu and Cameron parishes in June, 1933, particularly about Lake Charles, Sulphur, Vinton, southward at least as far as Cameron Farm, and as far west as Toomey; at all of these localities on June 20. Specimens were collected at Calcasieu Pass in the spring of 1854 by G. Würdemann; at Avery Island, May 12 and 13, 1930, by E. G. Wright; at Buras, January 29, 1896, by G. K. Cherrie; E. R. Kalmbach reported it from the mouth of the Mermentau River, August 11 and 12, 1925; and H. H. Kop-

man listed it as common at Hayes, June 12, 1918. The writer observed it frequently in the southwestern part of Cameron Parish, from the Orange-Cameron Land Company's club house to the beach of the Gulf of Mexico, January 24 and 26, 1928; abundant at Calcasieu Lake, December 30 and 31, 1932; he saw it also at Grand Chenier, December 30 and 31, 1932, and on the lower Vermilion River, January 23, 1928. The writer met with it at Iowa (La.), Lacassine, Welsh, Roanoke, Jennings, Midland, and Mermentau on June 20, 1933; and at New Iberia, on the following day. He ascertained it to be of general distribution throughout the western part of the State in summer, and made note of it at Shreveport, Cross Lake, Curtis, Taylortown, Elm Grove, McDade, and Atkins, June 18, 1933; at Natchitoches, Robeline, Fort Jesup, De Ridder, Longville, and Gillis, June 19, 1933.

A. H. Howell listed it at Hackley, February 20 to 24, 1912; and at Covington, November 2 and 3, 1908. H. H. Kopman reported it common at Junior, August 4 and 5, 1917; at Savoie, April 14, 1918; at Phoenix, April 9 and 10, 1918; Caernovan, April 16 to 18, 1918; and at New Orleans, July 10 and 11, 1917. H. L. Ballowe saw it at Diamond, March 24, 1902; and Edward Butler reported its breeding at Saint Francisville in 1915, and saw it in June, 1919, at Bains. At Grand Isle Ambrose Daigre observed it on April 5 and May 5, 1936, and on several intervening dates. The writer came across several Southern Meadowlarks at Dulac in Grand Caillou Bayou, Terrebonne Parish, June 22, 1933, and also south of this point on Little Go-to-Hell Bayou on the same day. He observed this species at Archie, Utility, Jonesville, Ferriday, Lake Saint John, Waterproof, Newellton, Quimby, and Tallulah, June 16, 1933; and at Tendal, Waverly, Delhi, Dunn, Rayville, Start, and Crew Lake on the following day. J. S. Campbell regards it abundant in Bienville Parish, where he has found it nesting from April 12 to late July.

Eggs of this species in the United States National Museum were obtained at Calcasieu Pass by G. Würdemann in

1854; and others, collector not known, at Grand Coteau on June 6, 1887.

RIO GRANDE MEADOWLARK

Sturnella magna hoopesi Stone

The Rio Grande Meadowlark can be regarded only as an accidental visitor to southern Louisiana.

There is but a single record, that of a perfectly typical adult female collected at Slidell, on October 28, 1908, by A. H. Howell.

WESTERN MEADOWLARK

Sturnella neglecta neglecta Audubon

The Western Meadowlark is a rare or casual winter visitor to northwestern and to central Louisiana, observed only in January.

The only records are two specimens collected by A. H. Howell, one at Foster, five miles east of Shreveport, January 29, 1908; and another at Lecompte on January 13, 1908.²⁴⁸

YELLOW-HEADED BLACKBIRD

Xanthocephalus xanthocephalus (Bonaparte)

The Yellow-headed Blackbird is a casual winter visitor in southern Louisiana.

George E. Beyer recorded this species as a winter resident in the southwestern part of Louisiana, particularly in Cameron Parish;²⁴⁹ and it is reported also from Calcasieu, Allen, Jefferson Davis, West Feliciana, and East Baton Rouge parishes, but without any definite dates of occurrence. One bird was killed in the winter of 1925 to 1926, three miles from the Rainey Wild Life Sanctuary, and identified by Richard Gordon.²⁵⁰ The writer saw a single individual near the Delta Duck Club on Octave Pass in the Mississippi River Delta on January 22, 1932.

²⁴⁸ Howell, Proc. Biol. Soc. Wash., Vol. XXI, April 11, 1908, p. 121.

²⁴⁹ Proc. La. Soc. Naturalists, for 1897-1899 (1900), p. 105.

²⁵⁰ Cir. Nat. Asso. Aud. Soc., No. 11, February 15, 1928, p. 7.

EASTERN RED-WINGED BLACKBIRD
Agelaius phoeniceus phoeniceus (Linnaeus)

The Eastern Red-winged Blackbird is, in the adult plumage of the male, easily distinguishable from any other bird that occurs in Louisiana, because of its wholly black plumage, except a patch of bright red, and another of buff on the bend of each wing. The brown-streaked female, however, is less easily distinguished from some other birds, but usually can be identified by its associates, as well as its plumage and notes, which, except for the song, are similar to those of the male.

This blackbird is primarily a marsh lover, and during the summer season is found chiefly in marshes, swamps, and other similar places near water, although occasionally birds may be found elsewhere, such as along a beach or in the bushes along a stream. During the migration season, however, when great numbers assemble into, at times, enormous flocks, sometimes by themselves, sometimes associated with cowbirds, grackles, and Bobolinks, they often frequent the wooded swamps or even uplands, particularly when seeking food.

The common song of this bird has been variously interpreted, but it sounds as near 'conkaree' as to any syllables that can be given, though there is, of course, a great deal of variation in its character. This is the song of the spring and summer; but the call note, which is heard at all times is a harsh 'chuck'.

The food of the Eastern Red-winged Blackbird is obtained often in the fields and plowed lands, even though the birds nest in swamps and marshes. In the spring it even follows the plow, picking up the insects that are uncovered; and it lives to a considerable extent on worms, grubs, canker worms, tent caterpillars, weevils, wire worms, click beetles, flies, ants, bugs, and grasshoppers. In the autumn and winter, however, it feeds more on the seeds of weeds and on grain in the rice and other fields. Whenever it becomes extremely numerous it, of course,

does considerable damage to cultivated crops, particularly grain; but it must be said that a good deal of its feeding in the rice and other grain fields is done after the grain is harvested, and the food that the birds get is thus mostly waste.

It often breeds in colonies, in marshes, meadows, or swamps, and the nest is placed usually in the grass or rushes just above the ground, often in bushes, sometimes at considerable height from the ground, but occasionally on the ground. The normally three to five eggs are pale bluish or greenish, with various spots, blotches, and lines of brown and black.

The Eastern Red-winged Blackbird is an abundant permanent resident, even more numerous during the migrations and in winter, in central and northern Louisiana; reported north to Lake Providence, Oak Grove in West Carroll Parish, Delhi, Dunn, Holly Ridge, Mer Rouge, Start, Monroe, Bienville Parish, Foster, and Belcher; west to Caddo Lake, Cross Lake, Lake Hayes (ten miles west of Shreveport), Shreveport, Curtis, Taylortown, Elm Grove, McDade, Atkins, Crichton, Mansfield, Natchitoches, Fort Jesup, Florien, and Pickering; south to De Ridder (probably this subspecies) and Lecompte; and east to Alexandria, Trout, Frogmore, Utility, Archie, Lake Saint John, Waterproof, Saint Joseph, Newellton, Somerset, Quimby, and Tallulah. It is also a winter resident in southern Louisiana, from January 12 to March 17, south at least to Kenner, Jefferson Parish, and Chenier au Tigre. It breeds chiefly in May and June.

Specimens of this race of the Red-winged Blackbird identified in the present connection are from Belcher, four specimens, February 4 and 5, 1908, A. H. Howell; two from Foster, five miles east of Shreveport, January 27, 1908, and one on January 28, 1908; and six from Natchitoches, January 16 and 17, 1908; all taken by A. H. Howell; one from Baton Rouge on February 23, 1937, by George H. Lowery, Jr.; one male from Kenner, January 12, 1890, in the museum of the Tulane University; and a female from

Jefferson Parish, March 17, 1927, in the museum of the Louisiana Department of Conservation at New Orleans. Sufficient specimens are not available to make it possible accurately to delineate the southern limit of the breeding range of the present form, and the distribution as above given, must, therefore, be considered more or less tentative, but it is as nearly correct as the writer is able to indicate at the present time.

Vernon Bailey reported this red-wing from Mer Rouge, June 2 to 7, 1892; and one bird was collected by J. Fairie on Prairie Mer Rouge, June 5, 1853. The writer found this subspecies at Tallulah, Delhi, Dunn, Holly Ridge, Rayville, Start, and Crew Lake, June 17, 1933; also at Quimby, Somerset, Newellton, Saint Joseph, Waterproof, Lake Saint John, Archie, Utility, Frogmore, Trout, and Pollock, June 16, 1933. In western Louisiana he noted it at Caddo Lake, Cross Lake, Shreveport, Curtis, Taylortown, Elm Grove, McDade, Atkins, and Crichton, June 18, 1933; and in these localities, particularly those that are in the Red River valley, this bird seemed to be unusually numerous. It was met with by him also at Fort Jesup, Florien, Pickering, and De Ridder on June 19, 1933. J. S. Campbell considers it an abundant permanent resident in Bienville Parish, where it begins nesting about May 1.

A. M. Bailey collected examples of this Red-winged Blackbird (*Agelaius phoeniceus phoeniceus*) at Chenier au Tigre on December 1, 1925, showing that its winter range extends to the Gulf Coast.

GULF COAST RED-WINGED BLACKBIRD

Agelaius phoeniceus littoralis Howell and van Rossem

The Gulf Coast Red-winged Blackbird is an abundant permanent resident in southern Louisiana; recorded north to Clinton, Bains, Bayou Sara, Valverde in Pointe Coupee Parish, Maringouin, Livonia, Lottie, Krotz Springs, Grand Coteau, Sunset, Carencro, Lafayette, Scott, Duson, Rayne, Crowley, Estherwood, Midland, Mermentau, Jennings, Roanoke, Welsh, Lacassine, Iowa (La.), Lake Charles.

Newton, Longville, (probably this subspecies), Sulphur, and Vinton; west to Toomey, Black Bayou in Cameron Parish, Cameron Farm 14 miles south of Vinton, and the Orange-Cameron Land Company's club house in southwestern Cameron Parish; south to Mud Lake in southwestern Cameron Parish, Calcasieu Pass, Calcasieu Lake, Grand Chenier, Chenier au Tigre, lower Vermilion River, Rainey Wild Life Sanctuary, Marsh Island, Calumet Plantation near Patterson, Wax Lake Pass, Little Wax Bayou, Avoca Island, Isle Derniere, Lake Barre, Lake Felicity, Cheniere Caminada, Grand Isle, Ronquille Bay, Shell Island, Southwest Pass in the Mississippi River Delta, Pilot Town, and Pass a Loutre; and east to Main Pass (Mississippi River Delta), Buras, Bird Island southwest of Breton Island, Breton Island, Curlew Island, Stake Island, North Island, Chandeleur Island, Mitchell Island, Martin Island, Isle au Pitre, Half Moon Island (Grand Island) in Lake Borgne, Grassy Island in Lake Borgne, Lake Catherine, Rigolets, Slidell, Mandeville, and Madisonville. This bird breeds in Louisiana from April to July, and there are records of eggs from May 4 to June 10.

Specimens of this subspecies have been examined from Lake Borgne, March 30, 1869, collected by Henry W. Henshaw; Pointe a la Hache, May 7, 1935, New Orleans, April 11 and 19, 1935, January 11, 1937, December 14, 1936, December 20, 1935, T. D. Burleigh; and February 10, 1936, by A. M. Bailey; New Orleans, April 18, 1894; Plaquemines Parish, February 7, 1863; Jefferson Parish, January 8, 1898; Belair, April 1 and 5, 1904, Ned Hollister; Avery Island, May 12, 1930, by E. G. Wright; Chenier au Tigre, May 22 and 27, 1930, by E. G. Wright; May 25, 1930, March 10, 1931, December 14, 1923, January 1 and 2, 1934, A. M. Bailey; Grand Isle, April 8, 9, 12, and 13, 1937, by George H. Lowery, Jr.; Baton Rouge, May 8, 1937, by S. Ward; and February 23, 1937, March 5 and 23, 1937, and July 29, 1937, by George H. Lowery, Jr.; Grand Pass, June 21, 1919, and Cameron Farm, June 21, 1919, by A. M. Bailey; Johnson Bayou in Cameron Parish, January 1,

1938, and Morganza, December 18, 1937, by George H. Lowery, Jr.; Morgan City, June 30, 1925, Vernon Bailey; Welsh, February 11, 1930, J. C. Bisley; Crowley, May 12, 1932, W. A. Douglas; Gueydan, on many dates between May 3, 1925, and June 8, 1925; on July 27, 1925, August 29, 1925, September 18, 1925, March 9, 13, and 19, 1926, and May 4 and 12, 1926, by E. R. Kalmbach. In addition, specimens have been determined by A. H. Howell and A. J. van Rossem from Avery Island and Breton Island; and Red-winged Blackbirds, presumably of this race, have been collected at Grand Isle, June 3, 14, 23, and 29, July 10, and 24, 1937, and Timbalier Island, June 30, 1937, by S. Ward; at Rigolets, March 4, 1869, by Henry H. Henshaw; and at Cameron Farm 14 miles south of Vinton, September 6, 9, 19, and 22, 1916, by Ernest G. Holt. Lack of specimens from the more northern localities prevents the exact determination of the northern limit of the breeding range of this subspecies, but the localities given above may tentatively be considered the boundary line of the summer distribution.

The United States National Museum has eggs of this species from Belair, collected June 7, 8, and 10, 1904, by Andrew Allison; and also from Grand Coteau, received from Saint Charles College, taken, June 6, 1887. H. H. Kopman reported this bird's breeding at Valverde in Point Coupee Parish in 1915; and the writer noted it at Livonia, Lottie, Krotz Springs, Sunset, Carencro, and Lafayette, June 21, 1933; and Scott, Duson, and Rayne, June 20, 1933. It is very numerous in every locality on the prairies of southwestern Louisiana during the breeding season, and the writer found it there in numbers at Roanoke, Jennings, Crowley, Estherwood, Midland, Welsh, Lacassine, Iowa (La.), Lake Charles, Sulphur, Vinton, and Toomey, June 20, 1933. He observed on June 19, 1933, at Newton and Longville, north of Lake Charles, Red-winged Blackbirds that were probably of this form, although he did not obtain any specimens. He noted the Gulf Coast Red-wing on Isle Derniere, June 22, 1933; at Shell Island in Plaquemines

Parish, Grand Isle, and Ronquille Bay, June 8, 1933; at Cheniere Caminada, June 9, 1933; and it was very numerous in the Mississippi River Delta, from the mouth of Southwest Pass to Burrwood, at Pilot Town, along Pass a Loutre, and along Main Pass, on June 7, 1933. East of the Mississippi River the writer saw it on the following islands: Bird Island southwest of Breton Island, and Breton Island, June 6, 1933; Curlew Island and Stake Island, June 5, 1933; North Island, Chandeleur Island, and Martin Island, June 4, 1933; at Isle au Pitre, Half Moon Island (Grand Island) in Lake Borgne, and Grassy Island, June 3, 1933; and at The Rigolets and Slidell on June 27, 1933. W. M. Sprinkle discovered nests with eggs, May 13, 1913, on Breton Island.

Throughout all the marshes in the Gulf Coast region in the southwestern part of the State, even in the winter, it is one of the most abundant birds. The writer saw it in large numbers along the Gulf beach near Mud Lake in southwestern Cameron Parish on January 26, 1928; at Mermentau, December 29, 1932; and at Welsh, December 30, 1932. It was easily the most abundant bird about Calcasieu Lake, December 30 and 31, 1932; and was numerous also at Grand Chenier, on the same dates; on the lower Vermilion River, January 23, 1928; and the Rainey Wild Life Sanctuary, January 22, 1928, where it was one of the most abundant birds, although apparently not common on Marsh Island, January 30, 1932. The writer noticed it also about Wax Lake Pass, Little Wax Bayou, and Avoca Island, January 28, 1932; and at Lake Barre and Lake Felicity, December 23, 1932. He met with it commonly in the vicinity of Chateau Canard on Main Pass in the Mississippi River Delta, December 19, 1932; at Pass a Loutre, December 17, 1932; and between Empire and Buras, December 16, 1932.

GIANT RED-WINGED BLACKBIRD

Agelaius phoeniceus arctolegus Oberholser

The Giant Red-winged Blackbird is an uncommon winter resident, from January 20 to February 22, casually to

June 2, in northern and southern Louisiana. It is probably more frequent than the specimens indicate, since it is not identifiable in the field, and records depend entirely on individuals collected.

The writer has seen specimens from Natchitoches, obtained, January 20, 1908; and Belcher, February 7, 1908, both by A. H. Howell; Jefferson Parish, February 22, 1897, in the museum of Tulane University; and Marrero, without date, a single female in the museum of the Louisiana Department of Conservation at New Orleans. An occurrence that must be regarded at least as casual, is that of an adult male in breeding plumage collected by J. D. Figgins at Cameron Farm in Cameron Parish on June 2, 1919.

THICK-BILLED RED-WINGED BLACKBIRD

Agelaius phoeniceus fortis Ridgway

The Thick-billed Red-winged Blackbird is a rare winter visitor in northern Louisiana.

There is but a single authentic record for the State, that of a female taken at Belcher, by A. H. Howell on February 4, 1908.²⁵¹

ORCHARD ORIOLE

Icterus spurius (Linnaeus)

The Orchard Oriole, although not so conspicuous or so brightly colored as the Baltimore Oriole, is yet a handsome bird, particularly the male, garbed as he is in black and chestnut. The female is much less conspicuous in olive green above and dull yellowish below. The immature male is very much like the female, but has a conspicuous black throat. This bird is called Orchard Oriole because of its habit of frequenting orchards. It is, however, by no means confined to such places, since it is very fond of the vicinity of dwellings and frequently builds its nest in the shade trees on lawns and along highways. In Louisiana it lives commonly on many of the coastal marshes, which is apparently not elsewhere a common habitat. The

²⁵¹ The Auk, Vol. XXVI, No. 2, April, 1909, p. 192.

bird is smaller and more slender in appearance than the Baltimore Oriole, and likewise seems to be rather more retiring in disposition, notwithstanding the fact that it frequently sings from a vantage point in the top of a tree in fields or elsewhere. It is somewhat more southern in distribution than the Baltimore Oriole and less likely to be common in the northern parts of its range than is the Baltimore Oriole in the same areas, although as with almost all birds there is much local variation in numbers. Its flight is rather less strong than the Baltimore Oriole, is seldom as long sustained, and apparently is performed with a little more effort. While it is usually seen in trees or bushes it not infrequently descends to the ground in search of food. It is not a bird that associates commonly with blackbirds, nor does it assemble into flocks, as they are commonly regarded.

The song of the Orchard Oriole is a rather pleasing warble, although not so rich in quality as that of the Baltimore Oriole, but consisting of many more notes, and, therefore, longer continued.

In its food habits the Orchard Oriole is a very beneficial species, living largely on insects, such as plant lice, scale insects, various injurious beetles, grasshoppers, and different kinds of caterpillars. It is, at times, a very important destroyer of canker worms and other destructive caterpillars, and feeds on even the cotton-boll weevil. A part of its food consists of wild fruits, but rarely does it do any damage to cultivated fruits such as strawberries and raspberries.

The nest of the Orchard Oriole is one of the most characteristic and interesting features of its life history. It is usually made of green grass, which later, by drying, becomes light straw-colored or of the color of dead grass, deftly woven to the branches of the tree, and is partly pensile, though it does not freely hang down like the nest of the Baltimore Oriole. The nest is built in either orchard or ornamental trees, but seldom in the forest. The eggs, like those of the other orioles, are pale bluish white, with

irregular scrawls and streaks, and a few small spots of dark brown and lavender or lilac. They are usually four to five in number; and ordinarily about 14 days are required for their hatching. The young remain in the nest until they are practically able to take care of themselves.

Altogether, this oriole is one of our most attractive birds and one that well deserves careful protection.

The Orchard Oriole is a summer resident, from March 22 to October 10, common in northern and central Louisiana, abundant in the southern part of the State, particularly in the Gulf Coast region, including the marshes; reported north to Prairie Mer Rouge, Monroe, Bienville, and Caddo Lake; west to Benton in Bossier Parish, Shreveport, Cross Lake, Taylortown, Gayle, Frierson, Lucas, Mansfield, Natchitoches, Hagewood, Robeline, Fort Jesup, Many, Florian, Vinton, and Black Bayou in Cameron Parish; south to Calcasieu Pass, Hayes, Gueydan, Avery Island, Vermilion Bay, Chenier au Tigre, Dulac in Terrebonne Parish, Four Bayou in Terrebonne Parish, Grand Isle, Ronquille Bay, and Pass a Loutre in the Mississippi River Delta; and east to Main Pass in the Mississippi River Delta, Diamond, Junior, Savoie, Phoenix, Belair, New Orleans, Caernovan, Chef Menteur, Lake Borgne, Rigolets, Mandeville, Madisonville, Hammond, Clinton, Saint Francisville, Bains, Archie, Ferriday, Lake Saint John, Somerset, Thomastown, and Talulah. It is also of accidental occurrence in winter in southeastern Louisiana. It breeds from April to July, and there are records of eggs from April 13 to July 8.

Specimens of this oriole have been collected at Houma, May 6 and 11, 1892, by Vernon Bailey; at Lake Borgne, April 18, 1870, by Henry W. Henshaw; New Orleans, May 24, 1897, by Andrew Allison; April 15, 1883, by R. W. Shufeldt; July 26, 1937, April 20, 1935, May 27, 1935, September 9, 1935, and October 1, 1935, by T. D. Burleigh; at Grand Isle, June 8, 1886, A. K. Fisher; Gueydan, May 15 and 17, 1925, E. R. Kalmbach; at Calcasieu Pass in the spring of 1854 by G. Würdemann; at Grand Isle, May 28, June 2 and 3, 1937, A. Daigre, and April 7, 1926, E. S.

Hopkins; Chenier au Tigre, April 12, 1919, May 25 and 26, 1930, E. G. Wright, and May 31, 1930, A. M. Bailey; Cameron Farm, June 2, 1919, J. D. Figgins; Harahan City, April 22, 1916, A. M. Bailey; Madisonville, July 17, 1888, G. Kohn; Franklinton, May 28, 1886, Clinton, June 9, 1888, and Covington, May 23 and 26, 1888, G. Kohn; and at Mansfield, April 27, 29, and 30, 1907, and May 2, 1907, by A. H. Howell. Eggs in the museum of Tulane University were taken in Jefferson Parish, May 21, 1892; and eggs in the United States National Museum, at Belair, June 7 and 10, 1904, by Andrew Allison; also at Grand Coteau, June 6, 1887, and April 13, 1875. A nest was sent to the Smithsonian Institution by J. Fairie from Prairie Mer Rouge in 1853; and one also from Calcasieu Pass by G. Würdemann in 1854.

H. H. Kopman reported this bird common, especially in the cotton fields, at Thomastown, July 13 to 28, 1896; and E. R. Kalmbach found it abundant at Tallulah, June 13 to July 13, 1924. J. S. Campbell considers it a common summer resident at Bienville, where it arrives in spring between April 4 and April 8, and begins nesting by May 10. The writer noted it at Caddo Lake, Cross Lake, Shreveport, and Taylortown, June 18, 1933; at Natchitoches, Hage-wood, Robeline, Fort Jesup, Many, and Florien, June 19, 1933; and at Vinton, June 20, 1933. H. H. Kopman listed it from Hayes, as common on June 12, 1918; and the writer saw it at Avery Island, June 21, 1933; on Ronquille Bay, June 8, 1933; and along Four Bayou in Terrebonne Parish, June 22, 1933.

One of the interesting and rather surprising ornithological experiences in southeastern Louisiana, particularly in the region of the Mississippi River Delta and the coastal areas west of that point, is to find the Orchard Oriole so common an inhabitant of the marshes, occurring even in the grasses and reeds as well as in the bushes and trees that fringe the bayous and ditches. The writer noted this bird in such situations very numerous about Dulac on Grand Caillou Bayou, and south of that point, June 22, 1933,

likewise along Pass a Loutre and Main Pass in the Mississippi River Delta, June 7, 1933. H. L. Ballowe noticed it at Diamond, April 2, 1902; H. H. Kopman, common at Junior, April 4 and 5, 1917; at Phoenix, April 9 and 10, 1918; at Savoie, April 14, 1918; at Hammond, March 28, 1920; and at Mandeville, August 18, 1917; and Ned Hollister met with it commonly at Belair from April 1 to 8, 1904. Ambrose Daigre saw it frequently and in some numbers from April 2 to May 5, 1936, inclusive, at Grand Isle, and collected one individual on April 3, 1936. Edward Butler recorded its arrival at Bains in 1922 on March 26, found it breeding there in 1916, and at Saint Francisville in 1915. According to George E. Beyer it breeds at both Clinton and Madisonville. The writer saw it at Rigolets, Chef Menteur, and near New Orleans, June 27, 1933; and at Ferriday, Somerset, Lake Saint John, Archie, and Jena, June 16, 1933. H. H. Kopman reported its spring arrival at New Orleans in 1903 on March 22, and its departure in 1920 on October 10.

The only winter record for Louisiana is by H. H. Kopman, concerning which he writes that this was of a full plumaged male seen in New Orleans on February 14, 1896; his notes made at the time read, "It uttered in a subdued voice the 'chuckee' note. It must be an individual that has wintered".

BALTIMORE ORIOLE

Icterus galbula (Linnaeus)

This oriole, so named because its colors of black, white, and orange were the colors in the coat of arms of Lord Baltimore, is one of the most attractive of our Louisiana birds. Unfortunately it is not as common in the summer as the Orchard Oriole, being naturally a more northern bird, but, in places where it occurs, it is always desirable. It lives where trees are to be found, although it does not so well like the deep forests as the more open country. In orchards, about dwellings in the country, as well as even in the streets of towns, it is perfectly at home. Its flight



BOAT-TAILED GRACKLE (*Cassidix mexicanus major*) ON NEST.
Marsh Island, La., May 18, 1930.
(Photograph by A. M. Bailey.)

is rather strong and well sustained, although it is fonder of remaining in the tops of trees than of spending its time on the wing. Furthermore, it seems not particularly to seek the society of other birds, but is more or less self sufficient in this respect.

The song of the Baltimore Oriole is rich and strong, although consisting of relatively few notes or groups of notes, and when once learned it is not easily to be confused with other bird notes of this region.

Someone has said that a Baltimore Oriole is worth its weight in gold to any farmer on whose land it takes up its abode. Certain is the fact that its food habits are so definitely beneficial to man, on account of the number of injurious insects that it destroys, that the small damage that it sometimes does to cultivated garden crops, like peas and cherries and mulberries, should not be considered a serious drawback to its usefulness. It is one of the birds that destroys hairy caterpillars, which apparently are not desirable food for most birds. Tent caterpillars, fall web worms, and similar kinds, are also much eaten. Moths, various kinds of beetles, many of them noxious, including the squash beetle and the cucumber beetle, plant lice, scale insects, bugs, and bag worms, are all a part of its diet. A small part of its food is made up of weed seeds and fruit, mostly wild kinds.

The Baltimore Oriole builds its nest usually in a tree, sometimes at a considerable height, though often so low that one can peer into it from the ground. It is fond of using the terminal twigs of a long drooping branch, such as the limb of an elm tree, but it often builds in orchard or shade trees. Sometimes the nest is well concealed but at times it is very conspicuous, even among the surrounding green foliage. It is like a long pensile purse, very compactly and strongly woven of vegetable fibers of various kinds, together with horsehair, wool, and similar materials. Bits of string or yarn, bark strips, and similar materials are employed at times, and occasionally a nest may be constructed chiefly or wholly of narrow strips of cotton cloth or of pieces of cotton twine. Ordinarily, however, the nest

is of gray vegetable fibers and thus inconspicuous. The lining is usually of hair or plant down, and is chiefly at the bottom of the structure. The nest is hung usually between the forks of a branch, and since the top is often smaller than the middle part the whole makes a safe cradle for the young. The eggs are normally four to five in number, white or bluish white, and marked with black or dark brown streaks and zigzag lines, with some spots of lavender and dark brown. The construction of the nest is ordinarily performed by the female, but the male commonly remains in the vicinity encouraging his mate.

Notwithstanding the complicated weaving that enters into the construction of the nest, this is usually completed in not more than six days. The female does most of the sitting on the eggs, although occasionally the male takes her place, but when the young are hatched the male is as active in feeding the young as his mate.

Due to the fact that the song of the Baltimore Oriole does not continue late in the summer, the birds are more or less inconspicuous on their breeding grounds after the young have become fully grown.

The Baltimore Oriole is an uncommon summer resident, from April 3 to October 8, in northern, central, east central, central eastern, and southeast central Louisiana; reported north to Monroe, Ruston, Liberty Hill, Gibsland, Homer, and Caddo Lake; west to Shreveport, Cross Lake, Curtis, Mansfield, and Alexandria; south to Valverde, Maringouin, Lobdell, and New Orleans; and east to Hammond, Clinton, Bains, Saint Francisville, Saint Joseph, Somerset, Sicily Island in Catahoula Parish, Singer Preserve in Madison Parish, Thomastown, and Tallulah. It is also a transient in southern Louisiana, recorded south to Calcasieu Pass, Iowa (La.), Gueydan, New Iberia, Grand Isle, and Port Eads. It breeds from April to June.

The writer detected this oriole at Caddo Lake, Cross Lake (west of Shreveport), and Curtis, on June 18, 1933; and D. W. Harris in 1876 sent to the Smithsonian Institution a nest collected at Homer. At Bains, Robert Butler

reports that it arrives in spring about April 10, and that young leave the nest about June 10. He says that two pairs were observed nesting in June, 1937. J. S. Campbell gives nesting dates for Bienville Parish at Liberty Hill, May 18, 1932, and at Gibsland, May 12, 1934. Mrs. Bruce Reid found several pairs breeding in Alexandria during the summer of 1931; while H. H. Kopman found it breeding at Valverde in June, 1915; and present in the nesting season at Maringouin in 1915. S. C. Arthur observed this oriole in West Feliciana Parish, between Bayou Sara and Oakley, on June 18, 1921. Edward Butler reported its breeding at Bains and Saint Francisville, and its spring arrival at the former locality in 1922 on April 3; and George E. Beyer in 1891 said that it bred at Clinton. George H. Lowery, Jr., gives arrival dates at Baton Rouge as April 6, 1933, and April 15, 1934; and collected a specimen at Port Allen on June 10, 1937. E. R. Kalmbach saw it frequently in Tallulah from June 13 to July 13, 1924. There are two nests in the United States National Museum, collected at Sicily Island in Catahoula Parish by Mrs. H. J. Disch in 1915. H. H. Kopman found the Baltimore Oriole common at Thomas-town, July 13, to 28, 1926; and the writer noted it at Saint Joseph and Somerset, June 16, 1933; and along the Tensas River in the Singer Preserve 13 miles southwest of Tallulah, on June 17, 1933.

Specimens were collected by Winston E. Nolan at Grand Isle, April 20, 1933, and May 5, 1933, and by Ambrose Daigre, April 24, 1936, and April 24, 1937; at New Orleans April 26, 1937, by T. D. Burleigh; by G. Würdemann at Calcasieu Pass in the spring of 1854; and by A. H. Howell at Mansfield, April 30 and May 2, 1907. Ambrose Daigre observed it at Grand Isle on April 5, 6, and 21, 1937. H. H. Kopman reported the spring arrival of the Baltimore Oriole at Shreveport, April 11, 1933, and April 20, 1935. Andrew Allison listed it from Lobdell, April 20 and 21, 1903; and H. H. Kopman, from Hammond, April 7 to September 22, 1920. E. R. Kalmbach saw a single individual south of Gueydan, May 3, 1925; and Vernon Bailey, a few individuals at Iowa (La.), April 6 to 9, 1899. H. H. Kop-

man said that it was not common at New Iberia on April 13, 1902. Four individuals struck the South Pass Lightship at Port Eads on April 13, 1902.

RUSTY BLACKBIRD

Euphagus carolinus (Müller)

The Rusty Blackbird is a winter resident, from November 17 to May 10, in most of Louisiana, recorded north to Lake Providence, Oak Grove in West Carroll Parish, Prairie Mer Rouge, Monroe, Bienville, and Belcher; west to Leconte, and Sabine Station in southwestern Calcasieu Parish; south to Jennings, Rayne, Kaplan, New Iberia, Cote Blanche, Calumet Plantation near Patterson, Avoca Island, Bayou Boeuf, Bayou Black near Houma, and Oneida near Convent; and east to Jefferson Parish, Kenner, New Orleans, Mandeville, Covington, Lobdell, New Roads, Richland Parish, Tallulah, and East Carroll Parish. It occurs sometimes in considerable flocks with other blackbirds and is apparently most numerous in the southeastern part of the State.

The writer has seen specimens of this species from Leconte, collected, January 15, 1908, by A. H. Howell; and in the museum of Tulane University, from Sabine Station in southwestern Calcasieu Parish, February 20, 1889; Rayne, February 14, 1889; Jefferson Parish, February 22, 1895; and New Orleans, January 26, 1894, January 6, 1872, February 20, 1937, March 13, 1894, April 9, 1895, April 10, 1897, and December 12, 1884. The species has also been obtained at New Orleans, April 16, 1897, by Andrew Allison; near Kenner, February 26, 1900, by George E. Beyer; Natchitoches, January 16, 1908, by A. H. Howell; at Prairie Mer Rouge, by J. Fairie in 1853; and at Baton Rouge, March 4, and 23, and April 1, 1937, by George H. Lowery, Jr.

Ned Hollister found it abundant in flocks from February 11 to March 20, 1904, in Morehouse, East Carroll, West Carroll, and Madison parishes. E. L. Moseley saw it in Richland Parish, March 31, 1923; and J. S. Campbell considers it a common winter visitor at Bienville, where he collected

specimens in 1932 and 1933. H. H. Kopman reported it from Jennings, January 30 and 31, 1918, where it was in flocks in the rice stubble fields in company with Red-winged Blackbirds; also common at Kaplan, January 15 and 16, 1918; and at Cote Blanche, January 13 and 14, 1918; Oneida near Convent, December 23, 1893, to January 1, 1894; and at New Roads, December 15, 1917. Ned Hollister noted it abundant at Belair, March 25 to April 8, 1904; and Andrew Allison observed it at New Orleans in 1899 as late as May 10. H. H. Kopman ascertained its arrival at Covington on November 17, 1899. The writer saw it between Houma and Bayou Chene on Bayou Black in Terrebonne Parish, also on Bayou Boeuf, and at Avoca Island, January 27, 1932.

BREWER BLACKBIRD

Euphagus cyanocephalus cyanocephalus (Wagler)²⁵²

The Brewer Blackbird is an uncommon winter resident, from December 23 to February 14, in northwestern and southeastern Louisiana; reported from Belcher, Foster, and Natchitoches, southeast to Oneida and Kenner, west of New Orleans. It occurs sometimes in flocks, and apparently is of most frequent occurrence in the northwestern part of the State.

At Belcher, A. H. Howell saw only one small flock between February 3 and 8, 1908; at Foster, he collected specimens on January 27, 28, 29, and 30, 1908; and also at Natchitoches, January 16 and 21, 1908. H. H. Kopman shot one from a flock of Rusty Blackbirds at Oneida near Convent in Saint James Parish, December 23, 1893; and there is a specimen in the museum of Tulane University at New Orleans, obtained at Kenner, December 23, 1888; also one in the Louisiana State University Museum taken at Baton Rouge in February, 1933, by George H. Lowery, Jr. He also saw a single individual at Baton Rouge on February 14, 1937. George E. Beyer says that he has noted and taken it on several occasions, but he gives no definite dates.²⁵³

²⁵² *Euphagus cyanocephalus* of the 1931 A. O. U. Check-List.

²⁵³ Proc. La. Soc. Naturalists, for 1897-1899 (1900), p. 105.

BOAT-TAILED GRACKLE*Cassidix mexicanus major* (Vieillot)

This bird, commonly called 'jackdaw' in Louisiana and Texas, is one of the well-known birds of the coast region. The black metallic bluish or purplish plumage of the male coupled with the long tail and strange notes and behavior make it a conspicuous bird. The female, however, is much duller and more inconspicuous in color, being dark brown above and light brown below. It is called 'Boat-tailed Grackle', or 'boat-tailed blackbird', because of the shape of its long tail, which, when the bird is in flight, resembles very much the keel of a boat. Although it seems rather difficult for the bird to rise from the ground, apparently on account of its long tail, when once the bird is under way its flight is strong and direct, usually even, though not remarkably swift.

It inhabits practically all kinds of country from the streets of towns and the door-yards of country dwellings to the swamps and marshes, although it is not so frequently found in the heavy forests, except in the tops of the trees, where it has alighted to rest or to roost. It assembles sometimes into great flocks, often under these circumstances associating with the Bronzed and other Grackles, Rusty and Red-winged Blackbirds, and Cowbirds, at such times resorting to the rice and other grain fields, where they at times do considerable damage to the crops. Great numbers also gather for the purpose of roosting in trees, bushes, or the reeds of the marshes, associating at such times also with the other blackbirds and grackles already mentioned. On the ground this bird walks slowly and rather dignifiedly, even when seeking its food.

The notes of this bird are at times louder and harsher than those of the smaller grackles, and the vocal performance, particularly during the breeding season, is carried on with the accompaniment of various movements of the head, neck, wings, and tail, which together form the courting behavior.

The food of this big grackle is made up of various kinds of water animals, such as crawfishes, crabs, shrimps, and the like, together with insects such as grasshoppers and beetles, and sometimes dead fishes. The majority of its food, however, consists of vegetable matter, such as grain, mostly corn, and in places rice and other grains, with some fruit. Of course not all the consumption of grain should be considered injurious, since a considerable portion of this obtained is probably waste, gleaned from the fields after harvest.

The Boat-tailed Grackle builds its nest in various situations, ordinarily either in trees or bushes, sometimes even at considerable height from the ground, but often in very low bushes or reeds in swamps, marshes, or cane brakes, where at times the nests are but a few inches above the water. Not infrequently the nests are built in colonies, particularly where favorable locations occur. The nest itself is a very bulky structure, sometimes eight or more inches in outside width, and composed of weed-stalks, grasses, roots, sedges, and similar materials, with often the addition of mud, and such other materials as rags, cotton, and seaweed. The lining consists of finer materials of similar character, usually grasses. The eggs, which are usually three to four, are variable in color, light blue or green, olive or drab, with dark brown and black markings of various shapes and sizes. It takes about 15 days to hatch the young, in which performance the male seldom assists, although he does aid in taking care of the young.

The Boat-tailed Grackle is an abundant permanent resident in the Gulf Coast region of southern Louisiana; reported north to Slidell, Madisonville, New Orleans, Boutte, Des Allemands, Raceland, Vacherie, Houma, Morgan City, Calumet Plantation near Patterson, Avery Island, Abbeville, Kaplan, Gueydan, Lake Arthur, Welsh, Iowa (La.), Vinton, and Toomey; west to Ged, Black Bayou in Cameron Parish, Cameron Farm 14 miles south of Vinton, and southwestern Cameron Parish; south to Mud Lake in Cameron Parish, Calcasieu Pass, Cameron, Calcasieu Lake,

Grand Chenier, Chenier au Tigre, Rainey Wild Life Sanctuary, Vermilion Bay, Marsh Island, Wax Lake Pass, Little Go-to-Hell Bayou, Four Bayou, Drum Lake (Lake Tambour), Lake Felicity, Grand Isle, Manila on Barataria Bay, Ronquille Bay, Shell Island in Plaquemines Parish, Southwest Pass in the Mississippi River Delta, Pass a Loutre, Codro Pass, Delta Duck Club on Octave Pass in the Mississippi River Delta, and Main Pass in the Mississippi River Delta; and east to Breton Island, Lake Catherine, and The Rigolets. It breeds from early April to July, and there are records of eggs from April 15 to June 18.

Specimens of this grackle have been examined from Cameron Parish, January 9, 1926, Vernon Bailey; Cameron Farm, May 8, 1919, E. R. Kalmbach; Lake Charles, June 16 and 17, 1935, George H. Lowery, Jr.; Mud Lake, ten miles north of Lake Charles, June 13, 1935, George H. Lowery, Jr.; Ged, June 1, 1930, E. G. Wright; Pilot Town, Mississippi River Delta, October 24, 1928; Avery Island, May 23, 1930; and Chenier au Tigre, December 13 and 15, 1925, January 1 and 5, 1934, all by A. M. Bailey; and February 1, 1928, by Wharton Huber; Gueydan, May 12 and 28, 1925, June 1 and 4, 1925, July 13, 1925, August 4, 1925, and September 4 and 18, 1925, E. R. Kalmbach; Vermilion Bay, February 10, 1911, A. K. Fisher; Morgan City, June 30, 1925, Vernon Bailey; and July 2, 1925, Mrs. R. D. Svihla; Houma, May 6, 1892, Vernon Bailey; Belair, March 27 and April 6, 1904, Ned Hollister; Grand Isle, April 13, 1937, and New Orleans, March 20, 1936, May 17, 1935, February 15, 1937, and June 21, 1935, T. D. Burleigh; New Orleans, March 1, 1886, and March, 1899; Jefferson Parish, April, 1899; and Deer Range Plantation in Plaquemines Parish, November 2, 1862. The species was collected also at New Orleans, December 15, 1882, by R. W. Shufeldt; at Buras, January 29, 30, and 31, 1896, and February 5 and 6, 1896, by George K. Cherrie; at Grand Isle, April 12 and 14, 1937, by George H. Lowery, Jr.; and on Black Bayou in Cameron Parish, February 10, 1879. Eggs now in the United States National Museum were obtained at Avery

Island, April 28, 1894; and by G. Würdemann at Calcasieu Pass in 1854.

On the marshes of the Gulf Coast region this grackle is one of the most conspicuous and numerous birds in both summer and winter. On the Cameron Farm in Cameron Parish, also about Vinton and Toomey, the writer found it abundant on June 20, 1933; likewise on Ronquille Bay on June 8, 1933. He observed it along Little Go-to-Hell Bayou, Four Bayou, about Dulac, and on Grand Caillou Bayou all the way from Dulac to the mouth of Four Bayou, June 22, 1933; and he noted it also on Grand Isle, and Shell Island in Plaquemines Parish, June 8, 1933; at Manila on Barataria Bay, June 10, 1933; at Boutte and Raceland, June 23, 1933. It was abundant in the delta of the Mississippi River, where he met with it near Burrwood and elsewhere along the Southwest Pass, along Pass a Loutre, and Main Pass, on June 7, 1933. He saw it at Slidell, June 27, 1933; at The Rigolets, June 2, 1933; and on Breton Island, June 6, 1933. George E. Beyer reported it as breeding in 1891 at Madisonville and New Orleans; H. H. Kopman found it common in the rice fields between Donaldsonville and Vacherie, July 12 to 14, 1917; and J. W. Trahan listed it as breeding at Abbeville in 1916.

During the winter this species appears to be more numerous than in the nesting time, and the writer has observed it in the former season throughout the Gulf Coast. About the Orange-Cameron Land Company's club house he noticed it numerous on January 26, 1928, as well as on the same day at Mud Lake in the same region. He saw it at Kaplan, December 29, 1932; at Lake Arthur and Welsh, December 30, 1932; at Avery Island, December 28, 1932; Lake Barre, Drum Lake (Lake Tambour), and Lake Felicity on December 23, 1932; the Rainey Wild Life Sanctuary, January 23, 1928; Grand Chenier and Calcasieu Lake, December 30 and 31, 1932; and at Wax Lake Pass, January 28 and 29, 1932. In the Mississippi River Delta it was numerous at the Delta Duck Club on Octave Pass and on Main Pass, December 19, 1932; at Johnson Pass

and Dennis Pass, December 17, 1932; Codro Pass, Cognovich Pass, and Dead Woman Pass, December 18, 1932.

The discovery that some individuals of the Boat-tailed Grackle have yellow eyes, and some dark brown eyes, has recently led to the description of two supposedly distinct new subspecies. One of these, from Florida, by Alexander Sprunt, Jr.;²⁵⁴ the other from Virginia by Francis Harper.²⁵⁵ Since, however, this grackle was first described from Louisiana, and since, moreover, there are both adult yellow-eyed and brown-eyed birds in this State, the separation of these additional races apparently will not affect the status of the Louisiana form.

FLORIDA GRACKLE

Quiscalus quiscula quiscula (Linnaeus)²⁵⁶

This bird, sometimes called 'Florida crow blackbird', is somewhat smaller than the Bronzed Grackle, and decidedly smaller than the Boat-tailed Grackle, but in general color of its plumage is much the same as the former, except that its upper parts are deep metallic green or greenish black, and its lower parts more purplish or greenish black.

It is fond of almost all kinds of country, both woodlands and the more open areas, together with cultivated lands.

— In flight and other habits it is very much like the Bronzed Grackle, and at times gathers into great flocks which wander about the country in search of food, or roost at night in the trees, bushes, or reeds of marshes.

Like the other blackbirds it feeds on both vegetable and animal food. The latter consists mostly of insects, such as boll weevils, beetles, caterpillars, and grasshoppers; also crawfishes, mollusks, and even lizards. The vegetable food is made up largely of grain, mostly waste, and of wild fruits and seeds. Like the other grackles it sometimes de-

²⁵⁴ Charleston Museum Leaflet, No. 6, February 24, 1934. pp. 1-5.

²⁵⁵ Proc. Acad. Nat. Sci. Phila., Vol. LXXXVI, March 8, 1934. pp. 1-2.

²⁵⁶ *Quiscalus quiscula aglaeus* of the 1931 edition of the A. O. U. Check-List.

stroys the eggs and young of small birds, particularly where the grackles are numerous and other food not so easily available.

The nest is commonly in a tree, though not usually very high from the ground, in bushes or on stumps, in either uplands or bottomlands, and sometimes in colonies. It is a rather bulky structure, composed of leaves, grasses, weed-stalks, twigs, and similar materials. Spanish moss is sometimes used to a considerable extent, as are also mud, flags, and pine needles. It is lined with fine grass and roots. The three to five eggs are similar in color to those of the Bronzed Grackle.

The Florida Grackle is a common permanent resident in southeastern Louisiana, reported north to Mandeville and Madisonville; west to Madisonville, New Orleans, Belair, Carlisle, Junior, Deer Range Plantation in Plaquemines Parish, Buras, Burrwood on Southwest Pass in the Mississippi River Delta, Johnson Pass, Dennis Pass, Codro Pass, Cognovich Pass, and Pass a Loutre; and east to Octave Pass, Dead Woman Pass, Willow Pass, and Main Pass in the Mississippi River Delta, East Lake in Saint Bernard Parish, Lake Catherine, The Rigolets, Half Moon Island, and Slidell. In winter it occurs at least casually also southwest of its breeding range, as far as Morgan City, central southern Louisiana. It breeds from April to June.

Specimens of this bird have been identified by the writer from Grand Isle, April 18, 1929, Cut Off in La Fourche Parish, April 17, 1937, T. D. Burleigh, collector; Deer Range Plantation in Plaquemines Parish, May 8, 1864; Belair, June 11, 1904, and March 31, 1904; Jefferson Parish, January 12, 1899; New Orleans, November 1, 1895; and by T. D. Burleigh, October 8, 1935; it was taken also at New Orleans on May 24, 1886, by A. K. Fisher. Frank M. Chapman also records²⁵⁷ birds from Mandeville, Isle Bonne (ten miles south of New Orleans), Chef Menteur, and Morgan City. Owing to the absence of specimens from

²⁵⁷ *The Auk*, Vol. LII, No. 1, January 8, 1935, pp. 26-27; *ibid*, No. 4, October 11, 1935, pp. 418-419.

along the borders of its more northern and western range it is not possible with definiteness to delineate the actual boundaries of its breeding distribution in Louisiana. It apparently, however, occupies a much smaller part of the State than has formerly been supposed.

George E. Beyer reported grackles breeding at Madisonville in 1891 which were doubtless of this race. The writer met with it at The Rigolets, June 2, 1933, at Slidell, June 27, 1933; and on Half Moon Island (Grand Island) in Lake Borgne, June 3, 1933. It breeds apparently all through the Mississippi River Delta, where the writer observed it on Southwest Pass as far south as Burrwood, on Pass a Loutre, and on Main Pass, June 7, 1933.

The winter range of this subspecies is virtually the same as its summer habitat, although the bird seems to be more numerous in the Mississippi River Delta and at other places along the Gulf Coast at this season than in summer; and in winter it wanders for some distance southwest of its breeding range. The writer found it abundant in the Mississippi River Delta at the Delta Duck Club, January 19, 1928, and on Main Pass, Codro Pass, Cognovich Pass, and Dead Woman Pass, December 18, 1932; on Dennis Pass and Johnson Pass, December 17, 1932; and on Willow Pass, December 20, 1932; also along the road between Buras and Empire on December 16, 1932.

PURPLE GRACKLE

Quiscalus quiscula stonei Chapman²⁵³

The Purple Grackle is a common permanent resident in central southern Louisiana, and a winter resident in the southeastern part of the State. It has been reported north to Clinton, West Feliciana Parish, and Simmesport; west to Saint Landry Parish, Opelousas, Lafayette, Broussard, Cade, Abbeville, Lake Arthur, lower Vermilion River, Avery Island, Vermilion Bay, and the Rainey Wild Life Sanctuary; south to Vermilion Parish, Avery Island, Wax Lake

²⁵³ *Quiscalus quiscula quiscula* of the 1931 A. O. U. Check-List: see Chapman. The Auk, Vol. LII, No. 1, January 8, 1935, p. 25.

Pass, Morgan City, Avoca Island, Dulac in Terrebonne Parish, Four Bayou in Terrebonne Parish, Lake Barre, Lake Felicity, Bayou La Fourche, and Grand Isle; and east to Grand Isle, New Orleans, West Baton Rouge Parish, and Baton Rouge; southeast in winter to Mandeville. It breeds from April to June, and there are records of eggs on April 26 and 27.

The limits of the breeding range of this grackle, as above outlined, are, as in the case of the Florida Grackle, subject to correction, as further specimens from the areas along the eastern, northern, and western boundaries become available. The writer has examined specimens from Opelousas, taken, June 2, 1895; Lobdell, May 4 and 23, 1903; Mandeville, winter of 1887 to 1888; New Orleans, July 6, and December 12, 1936; West Baton Rouge Parish, May 23, 1893; and Avery Island, May 9, 1920, April 22, 1895, and May 11, 1930. It was taken at Avery Island also on April 26, 1894, and June 23, 1895. Furthermore, Frank M. Chapman has recorded²⁵⁹ birds collected at New Orleans; Melville; 15 miles southeast of Livonia in West Baton Rouge Parish, March 5, 1903; Livonia, May 16, 1936; 15 miles southwest of Livonia, March 5, 1903; Coule Croche in Saint Landry Parish, June 3, 1935; Baton Rouge, May 24, 1935; Terrebonne Parish, Vermilion Parish, Saint Mary Parish, Morgan City, Abbeville, Avery Island, and Lake Arthur. Several of the specimens examined, particularly those from the more eastern part of this bird's range, are intermediate, verging toward the Florida Grackle, *Quiscalus quiscula quiscula*, but are on the whole nearer this race.

H. H. Kopman reported this grackle fairly common at Simmesport, August 31 to September 2, 1917, and between Donaldsonville and Vacherie, July 12 to 14, 1917. K. Geist listed it as breeding at Hohen Solms in 1915 and 1916. The writer observed it at Houma, June 22 and 23, 1933; at Lafayette, Broussard, Cade, Avery Island, and Krotz Springs, June 21, 1933; at Ervinville, and Lottie, June 15,

²⁵⁹ The Auk, Vol. LII, No. 1, January 8, 1935, pp. 26-27; *ibid.*, No. 4, October 11, 1935, pp. 418-419; Vol. LIII, No. 4, October 8, 1936, pp. 408-410.

1933; and common about Dulac on Grand Caillou Bayou and from Dulac to Four Bayou on June 22, 1933. Ambrose Daigre observed it at Grand Isle, April 23 and 24, also May 2 and 5, 1936. Richard Gordon states that it was breeding along the bayous on the Rainey Wild Life Sanctuary, June 28 to July 4, 1925, at which time most of the nests contained young. George E. Beyer considered it a breeding bird at Clinton in 1891. The writer saw it on Lake Felicity and Lake Barre, December 23, 1932; at Avery Island, December 28, 1932; on the lower Vermilion River and the Rainey Wild Life Sanctuary, January 22, 1928; and on Wax Lake Pass, January 28, 1932. On January 27, 1932, at Avoca Island, he watched a sunset flight of 5,000 of these grackles in company with Red-winged Blackbirds.

BRONZED GRACKLE

Quiscalus aeneus Ridgway²⁶⁰

The smaller grackles, such as the Bronzed Grackle and the Purple Grackle, are commonly called 'crow blackbirds', and in Louisiana frequently 'chock'. Like the Boat-tailed Grackle the Bronzed Grackle has a tail that is somewhat keeled, although not so much or conspicuously so as is that of the Boat-tailed Grackle. It is considerably smaller and has a shorter tail than the Boat-tailed Grackle, although in the color of its plumage it is very similar, except for the fact that the body of the Bronzed Grackle is of a dark golden bronze, in contrast to its metallic bluish or purplish black head.

In most regions this bird inhabits all kinds of country, both wooded and open, and both uplands and lowlands, according to locality. It is also a familiar bird about dwellings, both in the country and in the cities, particularly in parks. In the autumn and winter it regularly gathers into great flocks, associated at this time with other grackles and blackbirds. It often flies considerable distances, although its flight is not particularly swift, yet even and

²⁶⁰ *Quiscalus quiscula aeneus* of the 1931 A. O. U. Check-List.

well sustained. On the ground it walks with rather deliberate steps, jerking its head and tail in the process.

The notes of this bird are not very musical, but rather squeaky, and during the mating season, as well as at other times, its notes are frequently heard. The courtship display, though not so conspicuous as that of the Boat-tailed Grackle, is yet interesting. The male puffs up his feathers, and partly spreads his wings and tail, thus making himself in every way as conspicuous and apparently as attractive to the female as possible.

The food of the Bronzed Grackle consists of a wide range of both animal and vegetable matter. The bird consumes various kinds of insects, some of them very injurious, such as May beetles, curculios, tent caterpillars, cut-worms, army worms, bugs, and ants; also such other animals as crawfishes, worms, small snakes, snails, frogs, and salamanders. Various kinds of grain, and both wild and cultivated fruit are commonly taken, together with seeds of weeds, many of them of injurious kinds. While the bulk of its animal food indicates that the bird is more or less beneficial, it does, at times, do considerable damage to crops when it assembles into great flocks in the fall and descends on grain fields. Occasionally also it does some damage to fruit. Another of its unfortunate habits is the destruction of eggs and young of song birds.

This grackle nests sometimes in considerable colonies, though often singly, usually in trees, either evergreen or deciduous, sometimes at considerable height from the ground, but in places even on the ground or in holes of woodpeckers or in other cavities. The nest is a bulky structure, ordinarily composed of weed-stalks, twigs, grasses, lichens, and the like, lined with dry grass or similar materials. The usually four to five eggs are of light greenish blue or drab, spotted, lined, and blotched with various shades of dark brown and drab. The young are cared for assiduously and the parents are very faithful in the care and protection of the young.

The present grackle is one of the birds that is fond of the yards in the cities and can be readily attracted by a bird bath, since it is fond of bathing, and it is by no means an uninteresting bird to watch.

The Bronzed Grackle is a permanent resident, common in summer, abundant at other seasons, in central, northern, and southern Louisiana; reported north to Lake Providence, Oak Grove in West Carroll Parish, Mer Rouge, Monroe, Bienville, Calhoun, and Belcher; west to Caddo Lake, Vivian in Caddo Parish, Shreveport, Curtis, Taylortown, Elm Grove, Atkins, Natchitoches, Many, Leesville, De Ridder, Sabine Station, Sulphur, Vinton, and Black Bayou in Cameron Parish; south to southwestern Cameron Parish, Calcasieu Lake, Grand Chenier, Iowa (La.), Lacassine, Welsh, Roanoke, Jennings, Mermentau, Florence Club (16 miles south of Gueydan), Crowley, Rayne, Grand Coteau, and West Baton Rouge Parish; and east to Baton Rouge, Olive Branch, Lindsay, Clinton, Archie, Jonesville, Ferriday, Lake Saint John, Saint Joseph, Newellton, and Tallulah. It is also a winter resident, from January to April, and fairly common in southeastern Louisiana, southeast to New Iberia, New Orleans, Mandeville, and Madisonville. It breeds from April to June; and there are records of eggs from May 1 to June 6.

Specimens of the Bronzed Grackle have been examined by the writer from Mer Rouge, June 6, 1892, collected by G. A. Coleman; in the museum of the Department of Conservation at New Orleans, from near Saint Francisville, without date; and in the museum of Tulane University at New Orleans, from Sabine Station in southwestern Calcasieu Parish, February 4, 1889, and January 15, 1889; from Madisonville, April, 1859; New Orleans, January 25, 1873; Clinton, June 6, 1888; New Iberia, February, 1902; West Baton Rouge Parish, by Andrew Allison, January 24, 1903; and Rayne, February 5, 1889. Frank M. Chapman has recorded²⁶¹ additional specimens from Mandeville;

²⁶¹The Auk, Vol. LII, No. 1, January 8, 1935, pp. 26-27; *ibid.*, No. 4, October 8, 1935, pp. 418-419; LIII, No. 4, October 8, 1936, pp. 408-410.



SUMMER TANAGER (*Piranga rubra rubra*) AT NEST.
Thomasville, Ga., May 10, 1934.
(Photograph by A. M. Bailey and F. R. Dickinson.)

Baton Rouge; West Baton Rouge Parish; Vidalia; Moreauville; Boyce, May 20 to 22, 1935; Bunkie, May 23, 1935; two miles south of Meeker, May 11, 1935; Bordelonville, May 9, 1935; Woodside, May 15, 1935 (nesting); False River, between New Roads and Port Allen, May 6, 1935; two miles south of Livonia, May 16, 1936; 15 miles southeast of Livonia, May 9, 1903; and six miles south of Olive Branch, April 27, 1935. Owing to the scarcity of specimens from the southeastern portion of the supposed range of this grackle, it is not possible more than to indicate the possibilities of the southeastern limits of its breeding range, and, therefore, some of the statements here made must be, as in the case of the Florida Grackle, more or less tentative.

Eggs of this bird in the United States National Museum were collected at Grand Coteau, June 6, 1887. The writer found it at Waverly, Delhi, Dunn, and Holly Ridge, June 17, 1933; Caddo Lake, Shreveport, Curtis, Taylortown, Elm Grove, and Atkins, June 18, 1933; at Natchitoches, Many, and De Ridder, June 19, 1933; at Sulphur, Vinton, Iowa (La.), Lacassine, Welsh, Roanoke, Jennings, and Crowley, June 20, 1933. E. R. Kalmbach observed it commonly about Tallulah, June 13 to July 13, 1924; and the writer saw it at Archie, Newellton, Saint Joseph, Lake Saint John, Ferriday, and Jonesville, June 16, 1933. George H. Lowery, Jr., considers it an abundant breeding bird in the Baton Rouge region. J. S. Campbell regards it as a common permanent resident at Bienville, more numerous in winter, and found many nests with eggs on May 1, 1934.

Grackles, probably of this species, were numerous on the property of the Orange-Cameron Land Company, in Cameron Parish, about the club house and south to the Gulf of Mexico, January 24, 1928; at Calcasieu Lake, December 30, 1932; Grand Chenier, December 31, 1932; and the writer noticed a large flight at the Florence Club (16 miles south of Gueydan), on December 29, 1932. This grackle was captured at Segura, January 16, 1925, and recorded in winter at both Bayou Sara and New Iberia.

In view of the data that for many years have been accumulating, it seems more logical to treat the Bronzed Grackle as a distinct species, and the intermediate specimens as hybrids.

EASTERN COWBIRD

Molothrus ater ater (Boddaert)

The Eastern Cowbird is a winter visitor in Louisiana from October 16 to February 26, reported north to Belcher and Foster; west to Natchitoches and Cameron Parish; south to Lake Charles, Plaquemines Parish; and east to New Orleans and Kenner. It is not in the field separable from the other cowbirds, and it is probably of more frequent occurrence than the relatively few specimens examined would indicate.

The writer has determined specimens of this cowbird from near Kenner, February 26, 1900, Andrew Allison; and the following examples in the museum of Tulane University: New Orleans, February 16, 1894, February 16, 1875, February 8, 1898, and October 16, 1875; Sauve, in Jefferson Parish, February 9, 1890, and February 7, 1889; and Plaquemines Parish, January 16 and 18, 1866. It has been taken also at Lake Charles, December 7, 1925; in Cameron Parish, by A. M. Bailey; and by A. H. Howell at Natchitoches, January 17, 1908; at Foster, January 28 and 30, 1908; and at Belcher, February 7, 1908.

NEVADA COWBIRD

Molothrus ater artemisiae Grinnell

The Nevada Cowbird is a rare winter visitor, from September 7 to February 16, in southeastern Louisiana, and probably in also other parts of the State.

The only definite records are specimens in the museum of Tulane University at New Orleans, collected at Bayou Des Allemands, January 18, 1890; and New Orleans, February 16, 1895; another in the museum of the Louisiana Department of Conservation at New Orleans, taken at

Pearl River, December 1, 1932, by Winston E. Nolan; and one in the Biological Survey, obtained at Gueydan, September 7, 1925, by E. R. Kalmbach.

LOUISIANA COWBIRD

Molothrus ater buphilus Oberholser, new subspecies

Subspecific characters.—Similar to *Molothrus ater ater*, but much smaller and with a relatively somewhat stouter bill. Similar to *Molothrus ater obscurus*, but larger, the bill averaging much stouter, the female darker and less brownish.

Measurements.—(Average of 18 males)—Wing, 104.4 mm.; tail, 71.9; exposed culmen, 16.4; height of bill at base, 10.7; tarsus, 25.9; middle toe without claw, 16.4.

Type.—Adult male, No. 1-31633, Louisiana State University; Marsh Island, Louisiana; March 16, 1933; John D. Mizelle.

Geographic distribution.—Central southern United States; north to eastern Arkansas, northern Louisiana, central Oklahoma; west to New Mexico and central western Texas; south to northeastern Mexico and southern Louisiana; and east to southern Mississippi and eastern Arkansas.

While this new subspecies is in some respects intermediate between *Molothrus ater ater* and *Molothrus ater obscurus*, it differs so considerably from both, and occupies such a large area, that it seems desirable to recognize it as a separate race. It is the breeding cowbird of all Louisiana.

All the forms of the common Cowbird are so much alike that one description of both appearance and habits will answer for all.

The present bird, which is the one best known in Louisiana, is smaller than the Red-winged Blackbird; the male is black with greenish, bluish, or purplish reflections, but with a brown head; the female is of a dull, more or less

uniform grayish brown, though lighter below, and without distinct markings.

Like the Bronzed Grackle it lives almost everywhere, except that it is not so fond of the deep forests, and it is less commonly observed in the streets of the towns and cities. One of its habits, from which it has obtained its name of Cowbird, is its fondness for the vicinity of cattle, for the purpose, of course, of obtaining the insects that these animals attract. The Cowbird is at home either on the ground or in trees and it has a rather strong and well sustained flight. At times it collects into large flocks, which may consist wholly of Cowbirds or partly of Red-winged Blackbirds and grackles.

Its voice is not unpleasant, although it could hardly be called musical. It is rather more liquid and less sharp in tone than that of the grackles.

The Cowbird does not do so much damage to farm crops as do most of the other blackbirds, although, at times, in large numbers, it may descend on grain fields. Most of the food that it takes in this way is to be regarded as waste grain, so that the balance of its food ledger, so far as man is concerned, is favorable, since its animal food is mostly insects, and these include a number of injurious kinds, such as curculios, grasshoppers, caterpillars like the army worm, leaf hoppers, beetles, wasps, ants, and others. The rest of its diet consists of such items as spiders, snails, and wild fruit, together with large quantities of weed seeds.

Perhaps the most remarkable thing about the Cowbird is the manner of its nesting, since in the ordinary sense it does not mate, build a nest, or care for its young. Its eggs are laid in the nests of other small birds, and the birds that act as its hosts make up a long list. Occasionally its eggs are laid in the nest of a bird as large as a hawk, but this is very unusual. It is difficult to determine just how many eggs an individual female will lay, because of the fact that it probably lays these eggs in several different nests. The eggs are white, thickly speckled or spot-

ted with brown and drab. Normally there is but one egg of the Cowbird in the nest of another bird, but several eggs are often found in a single nest. The eggs, of course, are incubated by the bird in whose nest they happen to be laid, and the period of incubation is usually slightly shorter than that of the host bird, so that they are relatively sure of hatching. Some birds much object to the presence of the Cowbird's eggs in the nest, and seek by various means to avoid hatching the eggs of this interloper. Many birds desert the nest entirely, while others, like the Yellow Warbler, often build a nest on top of the one in which the Cowbird's eggs have been laid. After the young of the Cowbird hatch, the young or eggs of the host are disposed of, and the Cowbird ultimately becomes usually the sole occupant of the nest. It is fed and reared by its foster parents, often after it leaves the nest. For the reason that the laying of a Cowbird's egg in the nest of another species usually results in the destruction of the foster parent's brood, the Cowbird is to this extent an injurious species, since most of the birds that are thus parasitized are beneficial.

The Louisiana Cowbird is a permanent resident, fairly common in summer, abundant in winter and during migration, over practically all of Louisiana, reported north to Lake Providence, Oak Grove in West Carroll Parish, Waverly, Delhi, Mer Rouge, Monroe, Foster, and Belcher; west to Caddo Lake, Shreveport, Curtis, Crichton, Mansfield, Natchitoches, Robeline, Many, Vinton, and Cameron Farm in Cameron Parish 14 miles south of Vinton; south to the Gulf of Mexico in southwestern Cameron Parish, Calcasieu Lake, Grand Chenier, lower Vermilion River, Rainey Wild Life Sanctuary, Marsh Island, Saint Mary Parish, Avoca Island, Dulac in Terrebonne Parish, Terrebonne Bayou near Lake Barre, Grand Isle, and Cognovich Pass in the Mississippi River Delta; and east to Main Pass in the Mississippi River Delta, Ostrica, Belair, Marrero, Westwego, New Orleans, Baton Rouge, West Feliciana Parish, Jena, Archie, Jonesville, Frogmore, Ferriday, Lake Saint

John, Saint Joseph, Como, Newellton, Tallulah, and Lake Providence.

The writer has examined specimens of this bird from Saint Mary Parish, collected by H. H. Kopman, June, 1894; Marsh Island, March 16, 1933, obtained by John D. Mizelle; Marrero, collected by E. S. Hopkins, April 17, 18, and 28, 1926; New Orleans, February 8, 1895, and October 16, 1875, by Gustave Kohn; June 19, 1935, and July 13, 1936, Thomas D. Burleigh; Bayou des Allemands, January 15, 1890; Shelter Island, January 23, 1891; Como, July 10, 1899; Baton Rouge, January 13, 1933, March 4, 1937, and November 19, 1932, by George H. Lowery, Jr.; Montgomery in Grant Parish, June 10, 1937, by George H. Lowery, Jr.; Shreveport, May 16, 1937, George H. Lowery, Jr.; and Grand Isle, August 2, 1937, by S. Ward.

Field records of cowbirds in Louisiana are included under the present race, although, since it is not distinguishable in the field from the Eastern Cowbird, it is possible that some of the winter records herewith given relate wholly or in part to the Eastern Cowbird, *Molothrus ater ater*, which winters probably over most if not all of the Louisiana range of the present race.

A. H. Howell observed the Louisiana Cowbird at Mansfield, April 26 to May 3, 1907; and the writer noted it at Caddo Lake, Shreveport, Curtis, and Crichton, June 18, 1933; at Natchitoches, Robeline, and Many, June 19, 1933; at Waverly and Delhi, June 17, 1933; and at Tallulah, Newellton, Saint Joseph, Lake Saint John, Ferriday, Frogmore, Jonesville, Jena, and Archie, June 16, 1933. Cowbirds of probably this subspecies were seen by H. H. Kopman, at Moreauville, ten miles west of Simmesport, between August 31 and September 2, 1917, and breeding at Valverde in 1915. Likewise the cowbirds that the writer saw at Ervinville and Livonia on June 15, 1933, are referable probably to this race. Robert Butler says that it breeds in West Feliciana Parish.

This bird was noted on Cameron Farm, May 15, 1919, by E. R. Kalmbach; and by C. A. Bibbins has been reported

as a resident at Mermentau. The writer saw it at Iowa (La.) and Vinton, June 20, 1933. H. H. Kopman found it at Vacherie, July 12 to 14, 1917, and K. Geist listed it as breeding at Hohen Solms in 1916. It was observed by H. H. Kopman about New Orleans, July 10 to 24, 1917; and by Ned Hollister, at Belair, April 3 to 8, 1904. The writer saw it at Dulac in Terrebonne Parish, June 22, 1933; at Anna, Westwego, and Waggaman, June 23, 1933; and along Main Pass in the Mississippi River Delta, June 7, 1933.

During the winter the writer has found the Cowbird common at many localities in southern Louisiana, such as the Orange-Cameron Land Company's club house, near the Gulf of Mexico, in Cameron Parish, January 24, 1928; Calcasieu Lake and Grand Chenier, December 31, 1932; Rainey Wild Life Sanctuary, January 22, 1928; and Avoca Island, January 28, 1932. It was in considerable flocks on the lower Vermilion River, January 23, 1928; and at Lake Salvador and on Little Barataria Bayou, the writer noted it on January 26, 1932; also on Terrebonne Bayou and Little Caillou Bayou, south of Houma, December 24, 1932, in which region it seemed to be very widely distributed. He met with it also on Cognovich Pass, Mississippi River Delta, December 18, 1932; and along the Mississippi River from Pilot Town to Ostrica on January 23, 1932.

Family THRAUPIDAE

LOUISIANA TANAGER; WESTERN TANAGER

Piranga ludoviciana (Wilson)

The Louisiana Tanager is a casual transient visitor, from March 19 to May 11, in southeastern Louisiana.

There are apparently but three records for the State: a specimen collected by Andrew Allison, March 19, 1898, in Jefferson Parish on the Mississippi River opposite New Orleans; two birds seen by Winston E. Nolan at Grand Isle, May 7, 1933; and three birds seen at the same place by the same observer on May 11, 1933.

SCARLET TANAGER

Piranga olivacea (Gmelin)²⁶²

One of the most brilliantly colored birds in Louisiana is the Scarlet Tanager. Bright scarlet with black wings and tail, the male would seem to be much more conspicuous in the green foliage than it really is. The female, however, is a very modestly colored bird, olive green above and dull greenish yellow below. It is a well-known bird, particularly in the northeastern United States, and on account of its brilliant color has always attracted much attention.

While primarily a bird of the forests it is found also in cultivated areas, and often in the streets of the towns and cities. It is however, a tree-loving bird, but occasionally descends to the ground.

The common call of this bird is a sharp two syllabled note that is usually interpreted as 'chip-churr', and it can be readily identified by this description. Its song, however, while not particularly notable, is not dissimilar to some of the notes of the Robin, although not usually so loud.

The Scarlet Tanager is one of the most valuable of our woodland birds, since its food consists so conspicuously of injurious caterpillars and other insects that damage trees. Other insects, such as the potato beetle, bark beetles, grasshoppers, and ants, together with some spiders, wild berries, and seeds, make up the remainder of its food.

The nest of the Scarlet Tanager is built usually on the horizontal branch of a forest, shade, or orchard tree, and is often difficult to discover. It is a very flimsy structure of weed-stalks, grass, strips of bark, or leaves, and contains usually three to four green eggs, which are spotted with various shades of brown.

The Scarlet Tanager is an uncommon spring and autumn transient, from April 1 to May 31, and from September 12 to October 10, in the greater part of Louisiana; reported from Southwest Pass in the Mississippi River Delta, Grand

²⁶² *Piranga erythromelas* of the 1931 A. O. U. Check-List.



Painting by R. Bruce Horsfall

(Courtesy of the National Association of Audubon Societies)

THE SCARLET TANAGER
Piranga olivacea (Gmelin)

One of the most vivid of all Louisiana birds, the male Scarlet Tanager flashes like flame against the green foliage. The adult female is shown on her nest; the male, in adult plumage, is perched on a branch above her.

Isle, New Orleans, Chandeleur Island, Mandeville, Hammond, Bayou Sara, Lobdell, and Monroe; west to Bienville, Shreveport, Gueydan, Baldwin, Vermilion Bay, Chenier au Tigre, and Ship Shoal (southwest of Raccoon Point).

The writer has identified specimens from Grand Isle, collected by Winston E. Nolan, April 17 and 26, 1933, and April 21, 1937; and by Ambrose Daigre, April 10, 16, and 18, 1937; Hammond, September 16, 1876; Mandeville, May 14, 1874; and birds that struck the Southwest Pass Lightship in 1902, and the Ship Shoal Lighthouse in 1907. One individual was taken by Andrew Allison on Chandeleur Island, April 14, 1902; another by E. S. Hopkins at Grand Isle, April 30, 1925, and others by Ambrose Daigre, April 7, 8, 21, and 23, 1936, and George H. Lowery, Jr., April 10, 1937. H. W. Pring reported the spring arrival of the Scarlet Tanager at Hester, April 14, 1902; Mrs. G. L. Baldwin, at Baldwin, May 13, 1910; J. W. Trahan, at Vermilion Bay, April 27, 1919; Andrew Allison, at New Orleans, April 23, 1903; and W. H. Specht, at Shreveport, April 26, 1926; J. S. Campbell noted its spring arrival at Bienville, April 20, 1932, and its autumn arrival on September 12 of the same year. E. R. Kalmbach saw a pair south of Gueydan on May 1, 1925. George H. Lowery, Jr., states that a number of birds of this species were picked up on the campus of the Louisiana State University at Baton Rouge on the morning of April 15, 1933, evidently killed by the terrific hail storm of the preceding night.

The scientific name of the Scarlet Tanager should be *Piranga olivacea* (Gmelin), which long antedates the designation *Piranga erythromelas* Vieillot, in common use for this species. The name *Piranga olivacea* (Gmelin)²⁶³ is based on the immature plumage of the Scarlet Tanager, described from a specimen obtained at Hempstead, Long Island, New York. For further discussion of this name see the writer's account in a previous note.²⁶⁴

²⁶³ Syst. Nat., Vol. 1, Part 2, April 20, 1789, p. 889.

²⁶⁴ Oberholser, The Auk, Vol. XXXVI, No. 4, October, 1919, pp. 575-576.

SUMMER TANAGER*Piranga rubra rubra* (Linnaeus)

Throughout most of the southern United States the Summer Tanager is a well-known bird, although not so famous as the Scarlet Tanager. Another name by which it is commonly known is 'summer redbird'. It is readily distinguishable from most of our common birds, except the Cardinal, by its uniformly red plumage in the male, although the female very closely resembles the female of the Scarlet Tanager. It, however, has no crest, such as the Cardinal, nor any black markings on the face.

It is a bird chiefly of the open forest and brushy areas, either evergreen or deciduous, but apparently is rather a solitary bird, not ordinarily associating with other species, and not gathering into flocks.

The call of the Summer Tanager is composed of several notes, and it is thus distinctly different from that of the Scarlet Tanager. It has been represented by the syllables 'chicky-tucky-tuk'. Its rather musical song is even more like that of the Robin than is that of the Scarlet Tanager.

Its food consists of various kinds of insects and wild berries.

The nest of this bird, which is usually placed in a tree, preferably on a horizontal branch, is a very slight structure and very loosely attached to the tree. Occasionally the nest is found in towns, but ordinarily in rather open woodland sites. It is composed of weed-stalks, grasses, strips of bark, leaves, and similar materials. The three to four eggs are green with spots of purplish or brown.

Although a rather common bird it is somewhat retiring, and comparatively little is definitely known regarding its life history. It is one of the birds concerning which we have much yet to learn, and one which offers an interesting field for study.

The Summer Tanager is a fairly common summer resident, from March 24 to October 29, in most of Louisiana excepting the marshes and prairies of the Gulf Coast region;

reported north to Mer Rouge, Crew Lake, Many, Bienville, and Caddo Lake; west to Shreveport, Taylortown, Crichton, Mansfield, Logansport, Natchitoches, Hagewood, Many, Fisher, Sandel, Florien, Anacoco, Pickering, and Toomey; south to Iowa (La.), New Iberia, Saint Martinville, Bayou-Chene, Houma, Bayou Des Allemands, and Diamond; and east to Jefferson Parish, New Orleans, Mandeville, Madisonville, Covington, Hammond, Bogalusa, Clinton, Saint Francisville, Bains, Simmesport, Trout, Harrisonburg, the Singer Preserve in Madison Parish, and Thomastown. It is also a casual winter resident in southeastern Louisiana; and a transient in the extreme southern part of the State, recorded south to Calcasieu Pass, Gueydan, Avery Island, Chenier au Tigre, Vermilion Bay, Ship Shoal southwest of Raccoon Point, Grand Isle, Plaquemines Parish, Pilot Town, and Rigolets. It breeds chiefly in May and June, and there is record of eggs on June 3.

The writer has determined specimens of the Summer Tanager from Mansfield, collected, April 27, 1907, by A. H. Howell; from Bogalusa, June 5, 1935, by T. D. Burleigh; from Iowa (La.), taken, April 8, 1899, by Vernon Bailey; New Orleans, August 31, 1936, by T. D. Burleigh; New Orleans, April 23, 1864; Grand Isle, April 6 and 8, 1931, by E. S. Hopkins, also April 7, 9, 12, 16, and 18 by Winston E. Nolan; Ship Shoal Lighthouse in the spring of 1907; and Plaquemines Parish, May 3, 1864. It has been obtained also at Logansport, August 27, 1906, and at Mansfield, April 27, 29, and 30, 1907, by A. H. Howell; at Calcasieu Pass in the spring of 1854 by G. Würdemann; at Gueydan, May 3, 1925, by E. R. Kalmbach; in Jefferson Parish, April 10, 1899, by Andrew Allison; at Grand Isle, April 6, 14, and 20, 1936, by Ambrose Daigre, and April 9 and 10, 1937, by George H. Lowery, Jr.; and at Rigolets by Henry W. Henshaw on April 3, 1870. Eggs in the United States National Museum were taken at Grand Coteau, June 3, 1887, and at Prairie Mer Rouge in 1853; and a nest in the museum of Tulane University was collected at Covington on May 12, 1900.

H. H. Kopman found this tanager a common summer resident at New Iberia in 1902, and noted its arrival there on April 11. He reported it from Saint Martinville, between August 9 and 12, 1917; at Bayou Chene, August 29 to 30, 1917; at Bayou Des Allemands, June 19 to 21, 1917; at Mandeville, August 18, 1917; at Hammond, April 2, 1920; at Simmesport, between August 31 and September 2, 1917; and at Thomastown, July 13 to 28, 1896. George H. Lowery, Jr., considers this tanager a common summer resident at Baton Rouge, where it arrived on April 15, 1933, and April 20, 1934. Edward Butler listed it as breeding at Bains in 1916, and at Saint Francisville in 1915; and George E. Beyer in 1891 stated that it bred at Clinton and at Madisonville, H. L. Ballowe recorded its arrival at Diamond, April 16, 1902; and H. H. Kopman, at Holden, April 4, 1923. H. H. Kopman saw one individual at Pilot Town in the Mississippi River Delta on October 13, 1917. The writer observed the species at Houma, June 23, 1933; at New Iberia, Port Barre, Sunset, and Krotz Springs, June 21, 1933; at Alexandria and Trout, June 16, 1933; and at Lottie, June 15, 1933. Vernon Bailey saw it a few times at Mer Rouge, June 2 to 7, 1892; the writer found it very common along the Tensas River in the heavy bottomland forests of the Singer Preserve 13 miles southwest of Tallulah on June 16 and 17, 1933; and he noticed it also at Crew Lake on June 17, 1933. J. S. Campbell reported its 1932 arrival at Bienville, April 10, and its departure on September 24 of the same year. He met with it at Caddo Lake, Shreveport, Taylortown, and Crichton, June 18, 1933; at Natchitoches, Hagewood, Many, Fisher, Sandel, Florien, Anacoco, and Pickering, June 19, 1933; and at Toomey, June 20, 1933. Vernon Bailey reported it numerous and very tame at Iowa (La.), April 6 to 9, 1899; and Ambrose Daigre, observed it frequently at Grand Isle from April 6 to May 5, 1936.

The only winter records for Louisiana are by H. H. Kopman, who saw a single bird in the suburbs of New Orleans on December 28, 1896; another in the same locality

several times between December 26, 1904, and January 24, 1905; and still another on December 29, 1905.

Family FRINGILLIDAE

LOUISIANA CARDINAL

Richmondia cardinalis magnirostris (Bangs)

The Louisiana Cardinal, or 'redbird', does not differ in general habits from the other kinds of cardinals that inhabit the United States. It is everywhere a well-known and favorite bird, not only on account of its bright red plumage and handsome crest, but by reason of its rich, beautiful song, its abundance, and the fact that it often takes up its abode in towns or dooryards.

It is a bird largely of the thickets and undergrowth, and is not found much in the heavy deep forests, where there is no undergrowth. Wherever there are thickets, however, the Cardinal is almost sure to be seen or heard, as it is widely distributed and common.

During its activities it does not engage much in long flights, although for a short distance its movements on the wing are rapid and strong. Although ordinarily the Cardinal is not a gregarious bird, it sometimes gathers into companies that number a good many individuals.

The voice of the Cardinal is one of its greatest attractions. It is a loud, clear whistle of many variations, in which are single, double, or triple notes; and, although similar in quality and quantity to the song of the Carolina Wren, it is, except for this bird, easily distinguished from the songs of other inhabitants of the thickets.

The food of the Cardinal consists largely of seeds of weeds, wild fruit, and insects. Among the latter are such pests as the potato beetle and the Rocky Mountain locust, the cutworm, cotton worm, cotton-boll weevil, cucumber beetle, plant lice, and similar insects. It may readily be seen that the Cardinal is not only a beautiful bird and a fine songster, but also is valuable from the standpoint of the farmer.

The nest of this bird is rather loosely constructed of grasses, weed-stalks, bark, roots, leaves, and twigs, lined with hair or fine grass; and is placed in a bush or small tree, usually fairly well hidden. The three to four eggs are white, or bluish white, spotted with dark brown and lilac, and very much resemble the eggs of the Cowbird. The male is apparently very fond of his dull-colored brown and buff mate, and, although he does not assist her much, if any, in the construction of the nest, he does, at times, bring her food, and he helps in the care of the young, not only when in the nest, but for a while after they leave.

The Louisiana Cardinal is a common permanent resident throughout Louisiana; reported north to Lake Providence, West Carroll Parish, Mer Rouge, Start, Crew Lake, Monroe, Bienville Parish, Foster, and Belcher; west to Caddo Lake, Lake Hayes (ten miles west of Shreveport), Cross Lake, Curtis, Taylortown, Crichton, Mansfield, Natchitoches, Robeline, Fort Jesup, Many, Sandel, Anacoco, De Ridder, Gillis, Newton, Lake Charles, Sulphur, Vinton, Toomey, and Black Bayou in western Cameron Parish; south to Cameron, Calcasieu Pass, Grand Chenier, lower Vermilion River, Rainey Wild Life Sanctuary, Chenier au Tigre, Avery Island, Avoca Island, Dulac in Terrebonne Parish, Grand Caillou Bayou south of Dulac, Boudreaux Lake in Terrebonne Parish, Grand Isle, and Junior; and east to Belair, Bayou Loutre in Saint Bernard Parish, Chef Menteur, Lake Borgne, Lake Catherine, Slidell, Pearl River, Mandeville, Madisonville, Covington, Hackley, Clinton, Saint Francisville, Bains, Simmesport, Marksville, Archie, Utility, Frogmore, Lake Saint John, Waterproof, Saint Joseph, Newellton, Tallulah, and East Carroll Parish. It breeds from early March to July, and there are records of eggs from April 18 to June 10.

All the specimens of this species that the writer has examined from Louisiana are to be referred to the Louisiana Cardinal, *Richmondia cardinalis magnirostris*. These comprise birds from Belcher, February 3, 4, and 6, 1908; Foster, five miles east of Shreveport, January 30, 1908; Mansfield, January 23, 1908; Natchitoches, January 17 and

18, 1908; Lecompte, January 11, 1908; and Slidell, October 28, 1908, all collected by A. H. Howell; Pearl River, August 1, 1935, by T. D. Burleigh; New Orleans, April 16 and 26, 1935, June 26 and 28, 1935, and July 4, 1935, by the same collector; Mer Rouge, February 13, 1904, taken by Ned Hollister; Houma, May 10, 1892, by Vernon Bailey; Grand Isle, April 15, 1937, by T. D. Burleigh; Alexandria, November 11, 1936, T. D. Burleigh; Marrero, May 4, 1937, by Winston E. Nolan; Chenier au Tigre, January 1 and 2, 1934, A. M. Bailey, and May 22, 1890, E. G. Wright; Avery Island, May 10, 1930, E. G. Wright, and July 1, 1918, J. D. Figgins; and from Plaquemines Parish, November, 1862. The Louisiana Cardinal was originally described from specimens obtained by Andrew Allison and F. N. Carruth, Jr., near Lobdell in West Baton Rouge Parish on January 26, 1903; and the bird has been collected also at Madisonville, May 30, 1886, and New Orleans, May 24, 1886, by A. K. Fisher; at Lake Borgne, May 7, 1870, by Henry W. Henshaw; at New Orleans, November 9, 1882, and December 15, 1882 by R. W. Shufeldt; at Prairie Mer Rouge, June, 1853, by J. Fairie; at Avery Island, May 8, 10, 11, and 16, 1930, by E. G. Wright; Chef Menteur, January 22 and 24, 1896, and Buras, January 29 and 30, and February 1, 4, and 5, 1896, by George K. Cherrie; Carr's Creek in Jackson Parish, May 30, 1937, by George H. Lowery, Jr., and Calcasieu Pass in the spring of 1854 by G. Würdemann. Birds that struck the Southwest Reef Lighthouse, April 21, 1907, and October 27, 1908, were sent to the Biological Survey by S. Jones. Eggs in the museum of Tulane University are from New Orleans, April 18, 1894; and in the United States National Museum from Houma, May 11, 1892; Grand Coteau, June 3, 1887; and Belair, June 10, 1904.

The writer found the Louisiana Cardinal very numerous in the heavy bottomland forests along the Tensas River in Madison Parish on the Singer Preserve 13 miles southwest of Tallulah, June 16 and 17, 1933. He noted it also at all the localities mentioned above between Caddo Lake and Vinton (excepting Lake Hayes and Mansfield) from June

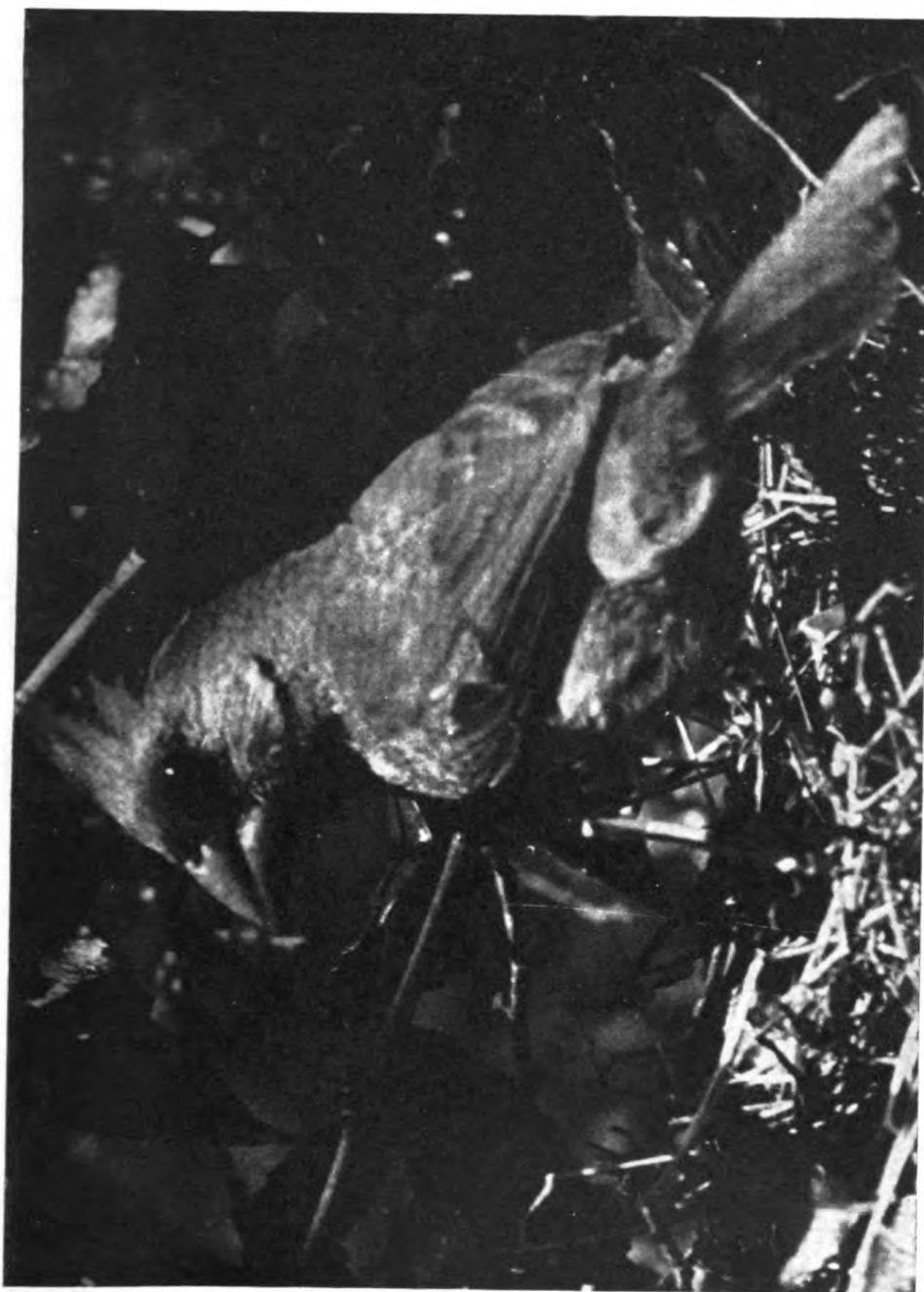
18 to 20, 1933; at Toomey and the Cameron Farm 14 miles south of Vinton, June 20, 1933; and on the same day at Welsh, Mermentau, and Crowley. At Rynella near Avery Island he saw it on June 21, 1933; at Lake Arthur, December 30, 1932; and on Black Bayou in northwestern Cameron Parish on January 24, 1928. Ambrose Daigre found this beautiful grosbeak common at Grand Isle in 1937, and saw it frequently from April 1 to 20; and S. Ward obtained specimens there on July 8 and 12, 1937.

ROSE-BREASTED GROSBEAK

Hedymeles ludovicianus (Linnaeus)

The Rose-breasted Grosbeak is a rare spring and autumn transient, from April 12 to May 14, and from September to October 6, in most of Louisiana; reported from Grand Isle, New Orleans, Lobdell, Baton Rouge, and Monroe, west to Ruston, Gueydan, and Calcasieu Pass.

The writer has seen specimens of this grosbeak from Grand Isle, April 22, 1929, April 16, 21, and 26, 1933, May 2, 1931, April 20, 21, and 24, 1937; and from the Southwest Reef Lighthouse at the entrance to Atchafalaya Bay, April 21, 1907. George H. Lowery, Jr., took it at Baton Rouge, April 21, 1934, and saw it there on October 4, 1933. Ambrose Daigre obtained it at Grand Isle on April 21, 24, and 29, 1936, and noted it up to May 5. G. Würdemann collected it also at Calcasieu Pass in the spring of 1854; and E. S. Hopkins obtained it at Grand Isle, May 3, 1925. At the last mentioned locality E. S. Hopkins reported it as common, April 28 to May 4, 1925, also on April 16, 1926, the date of its spring arrival there. At New Orleans, H. H. Kopman has seen it on May 14, 1923, April 26, 1903, April 21, 1905, and May 6, 1897; and George E. Beyer, on October 6, 1894. Andrew Allison recorded it from Lobdell, May 2, 1903; and George H. Lowery, Jr., as common at Monroe, April 26 to May 1, 1931. A pair was noticed south of Gueydan, May 1, 1925, by E. R. Kalmbach.



ADULT FEMALE LOUISIANA CARDINAL (*Richmondia cardinalis magnirostris*) ON NEST.
Chenier au Tigre, La., May 20, 1930.
(Photograph by A. M. Bailey.)



NEST AND EGGS OF LOUISIANA CARDINAL (*Richmondia cardinalis magnirostris*).
Chenier au Tigre, La., May 20, 1930.
(Photograph by A. M. Bailey.)

EASTERN BLUE GROSBEAK

Guiraca caerulea caerulea (Linnaeus)

Although the Eastern Blue Grosbeak is not common in Louisiana, it is so interesting and attractive a bird that it deserves some special mention. It is larger than the Painted Bunting and has a large, heavy bill. The male is rather dull blue with brown wing-bars; and the female is somewhat reddish brown above and paler below.

It inhabits the borders of woodlands and brushy fields, and were it not for its rather shy disposition it would be better known. Sometimes, however, it is found about dwellings and even in towns. It is a rather solitary bird, not much associating with other species.

It has a very pleasing song, much like that of the Purple Finch.

Its food consists of insects, such as grasshoppers, crickets, cutworms, weevils, and other noxious species, together with weed seeds and other vegetable matter.

The nest of this species is situated usually in a low tree, bush, or thicket of briars, occasionally even in town. It is seldom high above the ground; is composed of weed-stalks, grass, leaves, paper, and similar materials, and lined with hair and fine roots. The three to five eggs are very pale blue, unmarked.

The Eastern Blue Grosbeak is a rare summer resident, from April 11 to late September, in northern and central Louisiana, from Monroe, Bienville, and Shreveport, south to Grand Coteau; a spring and fall transient, from April 6 to May 11, and from August 29 to September 22 (October 22 in southern Mississippi), in southeastern Louisiana, from Grand Isle, New Orleans, Rigolets, Madisonville, and Hammond; west to Lobdell, Baton Rouge, and Little Caillou Bayou; and also a casual winter resident in southwestern Louisiana. It breeds from May to June, and there is record of eggs on June 3.

Specimens of this grosbeak have been identified in the museum of Tulane University, taken between Little Caillou

Bayou and Houma, August 27 and 28, 1875; and from Madisonville, August 29, 1890. This species was collected also at New Orleans, May 7, 1897, by Andrew Allison; at Grand Isle, April 6, 13, and 27, 1936, April 20 and 24, 1937, by Ambrose Daigre; and at Rigolets, April 18, 1870, by Henry W. Henshaw. Eggs in the United States National Museum received from the Saint Charles College were collected at Grand Coteau, June 3, 1887.

At Grand Isle E. S. Hopkins observed it from April 28 to May 6, 1925, and Ambrose Daigre, on April 10 and 21, 1937, but neither found it very common. Andrew Allison saw it at Lobdell, May 2 and 11, 1903; and H. H. Kopman, at Hammond, April 21, 1916. H. H. Kopman noted it at New Orleans, April 8, 1898, April 12, 1924, and August 28, 1899; and at Shreveport, April 22, 1928. George H. Lowery, Jr., considers it a common transient at Baton Rouge; and he found it fairly common at Minden, during the last week of July, 1934. J. S. Campbell says that it is a rare summer resident at Bienville, where he found it breeding on May 18, 1932.

The only winter record for Louisiana is a single specimen in the museum of the Louisiana Department of Conservation at New Orleans, obtained at Grand Chenier, February 23, 1925.

INDIGO BUNTING

Passerina cyanea (Linnaeus)

The Indigo Bunting in general appearance is a small edition of the Eastern Blue Grosbeak, but in the male it lacks the conspicuous reddish brown wing-bars. Its blue color is changeable and in some lights it appears green or even black. In Louisiana it is called 'blue pop', and by the French 'aveque'. It is more of a northern bird than the Painted Bunting, and is not so common in summer in the southern United States.

It inhabits fields and open woodlands, both cultivated and otherwise, and is not infrequently seen in towns and

villages. The male appears in spring before the female, and may usually be heard singing from the top of some tall tree, whenever the bird is present at this season. It is a very persistent singer, and its long, rather rambling song is one of the common sounds of the country-side. The brown female is not so conspicuous, and does not sing, but keeps mostly to the bushes and thickets.

In food habits it is largely insectivorous, and like its relatives consumes a great many injurious forms like the canker worm and other caterpillars, beetles, curculios, and grasshoppers. The vegetable part of its food consists of seeds of weeds and grasses, and some grain, mostly waste.

The nest of the Indigo Bunting is placed usually in a brushy pasture or thicket, in a bush or low tree, not over 15 feet from the ground. It is composed of twigs, grass, and weeds, and sometimes leaves, is lined with finer grasses, and occasionally feathers or hair. The three to four eggs are pale bluish white, mostly without markings. This bird sometimes rears two broods, and occasionally uses the same nest a second time. It takes about 12 days to hatch the eggs, and the young remain in the nest about the same length of time. Most of the care of the young and of the eggs is left to the female.

The Indigo Bunting is a rare summer resident, from March 26 to November 2, more frequently observed during migrations, in most of Louisiana excepting the Gulf Coast region; reported north to Tendal, Waverly, Delhi, Dunn, Holly Ridge, Rayville, Mer Rouge, Crew Lake, Monroe, Bienville, Minden, and Caddo Parish; west to Shreveport, Cross Lake, Mansfield, Crichton, Natchitoches, Hagewood, and Orange (Texas); south to Vinton, Saint Martinville, New Iberia, Dulac, Houma, Raceland, and Bayou Barataria; and east to Waggaman, New Orleans, Madisonville, Baton Rouge, Bains, Little River valley near White Sulphur Springs, Frogmore, Somerset, Thomastown, and Tallulah. It is also a transient in the Gulf Coast region, south to Calcasieu Pass, Gueydan, Vermilion Bay, Southwest Reef, Ship Shoal, Grand Isle, Diamond, Pilot Town, Chef Men-

teur, West Rigolets, and Rigolets; and a casual or accidental winter resident in southern Louisiana (Baton Rouge).

The writer has examined specimens of this bird from New Orleans, taken, June 30, 1936, by T. D. Burleigh; Pride in East Baton Rouge Parish, December 19, 1937, by George H. Lowery, Jr.; in the museum of Tulane University, from Lewisburg, collected, May 11, 1873; in the museum of the Louisiana Department of Conservation at New Orleans, from Grand Isle, April 23, 1933, May 6, 1933, and April 6 and 8, 1937, collected by Winston E. Nolan, and April 11, 13, and 14, 1937, by Ambrose Daigre; also birds sent to the Biological Survey from Southwest Reef Lighthouse, October 23 and 27, 1908, and April 21, 1907, by S. Jones; and from the Ship Shoal Lighthouse in the spring of 1907. It was taken also at Mansfield, April 27, 1907, and May 3, 1907, by A. H. Howell; at Calcasieu Pass in the spring of 1854 by G. Würdemann; at Grand Isle, April 6, 20, 21, and 26, 1936, by Ambrose Daigre; at Baton Rouge, April 30, 1937, by John Cotton; at Jackson, April 25, 1937, by George H. Lowery, Jr.; and at Rigolets, April 20, 1870, by Henry W. Henshaw.

Vernon Bailey found it at Mer Rouge, June 2 to 7, 1892, and E. R. Kalmbach at Tallulah, June 13 to July 13, 1924. H. H. Kopman listed it as very common at Thomastown, July 13 to 28, 1896; and the writer noted it at Somerset, Frogmore, also near White Sulphur Springs in the Little River valley in La Salle Parish, June 16, 1933; and at Baton Rouge, June 15, 1933. George H. Lowery, Jr., gives April 7, 1933, as its spring arrival date at Baton Rouge. He found this bunting fairly common at Minden during the last week of July, 1934. Edward Butler ascertained its breeding at Bains in 1922, in which year it arrived there on April 3. The writer observed it at Tendal, Waverly, Delhi, Dunn, Holly Ridge, Rayville, and Crew Lake on June 17, 1933; at Shreveport, Cross Lake, and Crichton, June 18, 1933; at Natchitoches and Hagewood, June 19, 1933; and at Vinton, June 20, 1933. E. R. Kalmbach detected it about

Gueydan, April 29, May 1 and 4, 1925, but stated that it disappeared from that region later in the spring.

H. H. Kopman said that it was a common summer resident at New Orleans in 1902, where it arrived on April 2. He reported it also from Saint Martinville, August 9 to 12, 1917; between Donaldsonville and Vacherie, July 12 to 14, 1917; and he saw it several times in thickets of willows, wax myrtles, and other bushes on the banks of the Mississippi River near Pilot Town, October 13, 1917. H. L. Ballowe noted it at Diamond, April 12, 1902; and W. H. Thompson as breeding at Urania in La Salle Parish in 1915. George E. Beyer is authority for the statement of its breeding in 1891 at Madisonville. Migration records from New Orleans by H. H. Kopman are March 26, 1899, September 25 and November 2, 1914; and by Andrew Allison, November 1, 1903. J. S. Campbell recorded its arrival in 1932 at Bienville, April 20, and its departure, September 15. The writer met with this species at Waggaman, Raceland, and Houma, June 23, 1933; on Bayou Barataria, June 10, 1933; and at Dulac on Grand Caillou Bayou, June 22, 1933. It was noticed at Mermentau, April 21, 1887, by C. A. Bibbins.

PAINTED BUNTING

Passerina ciris ciris (Linnaeus)²⁶⁵

The brilliantly colored Painted Bunting, with its variety of colors worn by the male, such as blue, yellowish green, red, and purplish, would seem to be conspicuous, but amid the foliage its parti-colored plumage blends so completely with the green of the trees that the bright parts of its feathers do not betray it as a bird. The female is a dull green bird above, yellowish below, and very inconspicuous as compared with its brightly colored mate. Perhaps on account of its brilliant colors it is called commonly 'nonpareil', and in Louisiana 'pape rouge' or 'red pop'.

²⁶⁵ *Passerina ciris* of the 1931 A. O. U. Check-List.

It is fond of the borders of woodlands, of thickets, and brushy areas, the shrubbery of cultivated places, and even the less closely congested portions of the towns.

The Painted Bunting has a song, which, while not so outstanding or elaborate as the song of the Indigo Bunting, is nevertheless a pleasant warble.

It lives largely on weed and grass seeds, together with some other seeds, including a little grain, but it feeds also on such insects as grasshoppers, caterpillars, flies, wasps, bugs, and beetles.

The nest of this bird is usually in a thicket, bush, or low tree, occasionally in a bunch of Spanish moss, and is composed of grasses, weeds, parts of leaves, and lined with grass or hair. The four to five eggs are white or bluish white, spotted with reddish brown, especially at the larger end. Under ordinary circumstances two or more broods are reared in a season.

The Painted Bunting was a favorite cage bird, and, particularly in the south was often seen in captivity. Its brilliant colors and pleasing song make it a desirable addition to the aviary, and in days gone by there was a considerable traffic in these birds.

The Painted Bunting is a fairly common, locally uncommon, summer resident, from March 11 to October 27, throughout most of Louisiana; reported north to Dunn, Rayville, Mer Rouge, Start, Crew Lake, Monroe, and Caddo Lake; west to Shreveport, Cross Lake, Taylortown, Frierson, Gayle, Crichton, Mansfield, Natchitoches, Hage-wood, Robeline, Many, Sandel, Lake Charles, Vinton, and Toomey; south to Calcasieu Lake, Mermentau, New Iberia, Avery Island, Baldwin, Calumet Plantation near Patterson, Houma, Raceland, Grand Isle, Ronquille Bay, and Pass a Loutre in the Mississippi River Delta; and east to Diamond, Junior, Jefferson Parish, New Orleans, Mandeville, Madisonville, Bains, Jena, Jonesville, Frogmore, Lake Saint John, Saint Joseph, Waterproof, Somerset, Quimby, the Singer Preserve in Madison Parish, Thomastown, and Tal-

lulah. Also it is a casual winter resident in southeastern Louisiana. It breeds chiefly in May and June, and there are records of eggs from May 17 to June 6.

The writer has identified specimens of this subspecies from Houma, May 13 and 14, 1892, collected by Vernon Bailey, and May 10, 1892, by R. J. Thompson; from New Orleans, June 26, 1935, and June 24, 1936, by T. D. Burleigh, and March 11, 1917, A. M. Bailey; from Plaquemines Parish, May 25, 1863; and Grand Isle, April 10, 1931, by E. S. Hopkins, April 8 and 24, 1937, by Ambrose Daigre, April 9 and 18, 1937, by Winston E. Nolan, and from the same locality October 5, 1937, by T. D. Burleigh; and Mandeville, April 1, 1889, by C. S. Galbraith. It has been taken also at Grand Isle on April 5 and 20, 1936, by Ambrose Daigre; April 15, 1936, by George H. Lowery, Jr.; in Jefferson Parish, March 26, 1898, by Andrew Allison; at New Orleans, May 5, 1897, and in West Baton Rouge Parish, April 11, 1903, by the same ornithologist; in Cameron Parish, May 15, 1884; by E. R. Kalmbach at Thibodaux, May 29, 1919; by E. G. Wright at Avery Island, May 17, 1930; and by G. Würdemann at Calcasieu Pass in the spring of 1854. Eggs in the museum of Tulane University at New Orleans were gathered at New Orleans in 1895; and eggs in the United States National Museum received from Saint Charles College were obtained at Grand Coteau, June 3 and 6, 1887.

Vernon Bailey noted the Painted Bunting at Mer Rouge, June 2, 1892; and the writer observed it at Dunn, Rayville, Start, and Crew Lake, June 17, 1933; at Caddo Lake, Cross Lake, Taylortown, and Crichton, June 18, 1933; at Natchitoches, Hagewood, Robeline, Many, and Sandel, June 19, 1933; and at Lake Charles, Vinton, and Toomey, June 20, 1933. H. L. Ballowe reported its spring arrival at Diamond, April 15, 1902; and H. H. Kopman saw it at Junior, August 4 and 5, 1917. It was common at Pass a Loutre in the Mississippi River Delta when the writer was there on June 7, 1933; and present also on Ronquille Bay, June 8, 1933. George E. Beyer stated in 1891 that it was breed-

ing at Madisonville; and Edward Butler said the same in 1916 concerning Bains. H. H. Kopman listed it as a fairly common summer resident at New Iberia, May 27 to June 9, 1918; and C. A. Bibbins as occurring at Mermentau on April 21, 1887. The writer met with it at Westover, Ervinville, Oscar, Lottie, Cade, Krotz Springs, and Port Barre, June 21, 1933; Livonia, Westover, and Ervinville, June 15, 1933; Alexandria and the Little River valley near White Sulphur Springs in La Salle Parish, June 16, 1933; Lutch-er, June 14, 1933; Harvey Canal, from Little Barataria Bayou to New Orleans, June 10, 1933; Houma, Raceland, and Waggaman, June 23, 1933; Jena, Jonesville, Frogmore, Lake Saint John, Waterproof, Saint Joseph, Somerset, and Quimby, June 16, 1933. It was encountered also on the Singer Preserve 13 miles southwest of Tallulah, although it did not seem to be common in that locality. H. H. Kopman found it at Thomastown, July 13 to 28, 1896; and Andrew Allison, at New Orleans, October 27, 1895, where George E. Beyer noticed its arrival, March 23, 1894. George H. Lowery, Jr., gives it as a fairly common summer resident at Baton Rouge, with spring arrival dates of April 22, 1933, and April 28, 1934.

The only winter records of this species for Louisiana are by George E. Beyer, who has mentioned having seen individuals during December and January of several years prior to 1900.²⁶⁸

DICKCISSEL

Spiza americana (Gmelin)

The Dickcissel, or, as it is often called on account of its plumage, 'Black-throated Bunting', is a well-known bird in the middle United States. It is of rather peculiar distribution, however, on account of the fact that it is very local in abundance, and this does not always seem to be determined by favorable surroundings. It is a bird about the size of the Painted Bunting, brown and gray above, and streaked with blackish, with a reddish brown patch on the

²⁶⁸ Proc. La. Soc. Naturalists, for 1897-1899 (1900), p. 108.

bend of the wing, yellow eyebrow and breast, white throat with a black patch on the lower throat. The female is similar but duller.

This bird is fond of the prairies, fields, and meadows, and even the marshes along the coast. It is seen usually perched on the top of a tall weed or spire of grass, frequently uttering its rather monotonous song, which sounds so much like 'see-see-dick-dick-cissel-cissel' that it has from this received its common name of Dickcissel. It seldom flies far, but when disturbed usually sinks into the grass out of sight.

It feeds largely on grasshoppers and other insects, such as crickets, caterpillars, beetles, flies, and ants, together with weed seeds and grain. From its food habits this bird must be considered a very beneficial species, particularly for its services in destroying great quantities of grasshoppers.

The nest of this bird is placed usually on the ground, well hidden by grass or weeds, in a meadow, grassy field, along a fencerow or roadside, occasionally in a bush or small tree. The nest is rather bulky, but fairly well constructed, and is composed of weed-stalks, grasses, leaves, rootlets, and lined with finer grasses or horsehair. The three to five eggs are light greenish blue without markings. Ten to twelve days are required for the birds to hatch, and there are probably two broods each year. The young remain in the nest from eight to ten days, and are cared for by the parents for a period after they leave the nest.

The Dickcissel is a rare, though locally common, summer resident, from April 6 to October, in most parts of Louisiana; reported north to Monroe, Bryceland, Bienville, and Shreveport; west to Shreveport, Taylortown, Elm Grove, McDade, Atkins, Caspianna, Frierson, Gayle, Mansfield, and the Cameron Farm 14 miles south of Vinton; south to the mouth of Calcasieu River, Lake Charles, Broussard, Saint Mary Parish, Dulac, and Diamond; and east to

Waggaman, New Orleans, Mandeville, Roseland, Baton Rouge, Lobdell, Bayou Sara, Saint Joseph in Louisiana opposite Vicksburg (Mississippi), and Tallulah. It is also of accidental winter occurrence in southeastern Louisiana. It breeds principally in May and June.

The writer has determined specimens of this species from Grand Isle, April 21, 1929; Mandeville, May 6, 1894; Baton Rouge, May 23, 1933; and Monroe, taken by T. D. Burleigh, April 27, 1936. Andrew Allison also collected it near Lobdell, May 1, 1903. The writer observed it at Shreveport, Taylortown, McDade, Elm Grove, and Atkins, June 18, 1933; at which time it was unusually numerous in the fields and thickets of the Red River valley. He discovered it on the prairies of the Cameron Farm near Bird Island, 14 miles south of Vinton, June 20, 1933; and also at Lake Charles on the same day; at Broussard, June 21, 1933; at Dulac on Grand Caillou Bayou in Terrebonne Parish, June 22, 1933; and at Waggaman, June 23, 1933. H. W. Pring stated that it was a rare breeding bird at Hester in Saint James Parish in 1902; and noted its presence there on May 9 of that year. H. L. Ballowe reported its arrival on April 28, 1902, at Diamond, where he said that it was a common summer resident. H. H. Kopman saw it at Roseland in Tangipahoa Parish, May 3, 1918; George E. Beyer detected it at New Orleans, April 6, 1894, and Ambrose Daigre, June 13, 1936; he observed it also at Grand Isle on April 28, 1936. Andrew Allison noticed it at Lobdell, April 30, 1903; and Ambrose Daigre says that it breeds at Alexandria. George H. Lowery, Jr., considers it a common summer resident at Baton Rouge, arriving in April. It was collected there by him on May 29, 1937; on April 23, 1937, by S. Ward, and on May 11, 1937, by J. T. Sepulvado. E. R. Kalmbach found it a common bird in waste places and fields about Tallulah, June 13 to July 13, 1894; and the writer met with it there on June 17, 1933, as well as at Saint Joseph on June 16 of the same year. J. S. Campbell found it breeding at Bryceland in late May and early June, 1932, and at Bienville in June, 1933.

The only winter record for the State of Louisiana is a specimen in the museum of the Louisiana Department of Agriculture in the State Capitol at Baton Rouge, collected at New Orleans in December, 1932.

EASTERN PURPLE FINCH

Carpodacus purpureus purpureus (Gmelin)

The Eastern Purple Finch is a winter resident, from November (November 13 in southern Mississippi) to April 21, casually to May 19, in northern, central, and southeastern Louisiana, sometimes fairly common, but irregular and usually rare. It has been reported north to Mer Rouge, Monroe, Ruston, and Haynesville in Claiborne Parish; west to Foster, Shreveport, and Lecompte; south to Jefferson Parish and New Orleans; and east to Mandeville, Bains, and Clarks.

Specimens have been examined from Mer Rouge, collected, February 13, 1904, by Ned Hollister; also in the museum of Tulane University, from Mandeville, January 20, 1879, and May 19, 1879; and from New Orleans, January 12, 1895, February 12, 1875, March 12, 1895, and April 25, 1895. The Eastern Purple Finch was also taken (but not seen in the present connection) in Jefferson Parish by Andrew Allison, January 12, 1895; and at Clarks, January 6, 1908, Foster, January 28, 1908, and Lecompte, January 14, 1908, by A. H. Howell. A bird banded in Connecticut was captured at Haynesville in Claiborne Parish on February 8, 1924. George H. Lowery, Jr., saw a single individual at Monroe on December 27, 1934. H. H. Kopman found many Purple Finches at Shreveport during January and February of 1930. He reported this northern bird also at New Orleans on March 23, 1895, and March 22, 1894. Robert Butler saw it at Bains on February 12 and March 8, 1932.

NORTHERN PINE SISKIN*Spinus pinus pinus* (Wilson)

The Northern Pine Siskin is a rare and irregular winter visitor, from November to April, in northern and southeastern Louisiana, from Mandeville, Madisonville, and New Orleans, northwest to Shreveport.

A specimen taken at Mandeville, January 20, 1879, is in the museum of Tulane University at New Orleans. The species was noted by Otto Widmann at Mandeville on March 2, 1897, and at Madisonville, March 5, 1897. C. S. Galbraith reported that it was fairly common at Mandeville during the winter of 1887 to 1888, as recorded by J. A. Allen. H. H. Kopman observed a flock near New Orleans on March 13, 1897; and remarked the presence of this siskin there on March 15, 1924, as well as that it was numerous at Shreveport on March 31, 1928.

EASTERN GOLDFINCH*Spinus tristis tristis* (Linnaeus)

The Eastern Goldfinch, 'wild canary', or 'thistle bird', as it is often called, is one of the best known small birds of the United States. Its bright yellow plumage, with black cap, black and white wings and tail, make it conspicuous, even though the female is of much duller coloration, being brownish or grayish above, without conspicuous markings, and pale grayish, whitish, or somewhat yellowish below.

Owing to its habit of spending much time on the wing flying from place to place, with a strongly undulating flight, uttering a few notes during the process, it becomes well known to everyone. In addition to the notes that are heard in flight it has a long canary-like song that is one of the most extended vocal performances of any of our common birds.

It lives in woodlands or open lands, wild or cultivated, and is almost as frequently seen in shade trees of the

towns as it is in the country. At times this bird gathers into considerable flocks, but commonly does not associate with other species.

The food of this goldfinch is made up chiefly of seeds of various kinds, mostly of uncultivated plants like the thistle, goldenrod, aster, sunflower, and burdock. It feeds also on the seeds of various kinds of cultivated plants. The seeds of trees such as larch, birch, and alder, and sometimes buds, also enter into its fare. At certain times of the year it feeds to a considerable extent on insects, such as plant lice, beetles, and caterpillars, together with insect eggs.

In its nesting habits this bird is peculiar, in that it waits until July or August, sometimes even later, to build its nest. This is situated either in cultivated areas or in rather open country, in many kinds of trees, but usually in an upright fork or other secure place, even toward the end of the branches, usually not very high from the ground. It is a very neat, compact structure, closely woven and securely fastened to the branch or twig; composed of various kinds of vegetable fibers, such as bark and weed fibers; and lined with thistle down or other vegetable down. The usually five eggs are bluish white without spots. Eleven to twelve days are required to hatch the eggs, and the incubation is performed by the female alone. Owing to the fact that it nests so late in the year it rarely, if ever, rears a second brood.

The Eastern Goldfinch is a permanent resident, rare in summer, fairly common in winter, in northern and central Louisiana, and in the northwestern part of southeastern Louisiana; reported north to Lake Providence, Oak Grove in West Carroll Parish, Monroe, Bienville Parish, Foster, and Belcher; west to Shreveport, Mansfield, Natchitoches, Alexandria, and Lecompte; south to Kenner; and east to Richland Parish, Tallulah, and Bear Lake in Madison Parish. It is, in addition, a fairly common winter resident, from October 23 to April 26, in the remaining portions of the State, though rare or absent in the southwestern part; reported south to Vermilion Bay, Avery

Island, New Iberia, Barataria Bayou, Diamond, and Lake Catherine.

Specimens have been seen from Belcher, February 5, 1908, A. H. Howell; Lecompte, February 10, 1908, A. H. Howell; Clarks, January 7, 1908, A. H. Howell; New Orleans, January 24, 1936, and December 20, 1935, T. D. Burleigh; in the museum of Tulane University at New Orleans, from New Orleans, April, 1894; Jefferson Parish, February 9, 1895; Hammond, March 4 and 11, 1876; and Mandeville, October 23, 1878, December 12, 1877, and January 20, 1879. It was taken, but not seen by me, also at Natchitoches, January 20, 1908, by A. H. Howell; at New Orleans, December 13, 1882, by R. W. Shufeldt; Buras, February 4, 1896, and Chef Menteur, January 24, 1896, by George K. Cherrie; Harvey Canal near New Orleans, November 30, 1899, by Andrew Allison; and in Jefferson Parish, January 8, 1898, by the same collector.

George H. Lowery, Jr., records this goldfinch as breeding at Monroe; J. K. Strecker, as occurring in the northwestern corner of the State in June; and the writer observed two individuals at Kenner near New Orleans on June 14, 1933. A. H. Howell saw a single individual at Mansfield, May 3, 1907, and noted it also January 23 to 25, 1908. H. H. Kopman observed several flocks of fully plumaged males at Shreveport on April 30, 1933; and Ned Hollister noticed a few individuals near Bear Lake, eight miles northwest of Tallulah, between February 17 and March 6, 1904. The writer saw this bird at Avery Island, December 28, 1932, and on Little Barataria Bayou in Jefferson Parish, January 26, 1932. H. L. Ballowe reported it at Diamond on April 3, 1902; and Robert Butler, from Bains, December 6, 1928, January 4 and March 4, 1929.

SITKA CROSSBILL

Loxia curvirostra minor (Brehm)²⁶⁷

The Sitka Crossbill is an accidental winter visitor in southeastern Louisiana. The only record for the State is

²⁶⁷ *Loxia curvirostra sitkensis* of the 1931 edition of the A. O. U. Check-List.

a pair taken by C. S. Galbraith at Mandeville, March 27, 1888.²⁶⁸

In a recent review of the crossbills Ludlow Griscom has furnished evidence to show²⁶⁹ that the name *Loxia curvirostra minor* was based on a specimen of the small Sitka Crossbill of the northwestern coast of the United States, and southeastern Alaska, and he has determined the two specimens above mentioned as belonging to this small western race.

RED-EYED TOWHEE

Pipilo erythrophthalmus erythrophthalmus (Linnaeus)

The Red-eyed Towhee has a number of names, several of which are imitations of its note, such as 'joree' and 'chewink'. It is called also 'swamp robin'. The male is conspicuous in its black plumage with white spots in the tail-feathers, white breast, and chestnut brown sides; and the female is brown where the male is black.

It is a bird of the thickets, brushy land, fencerows, roadsides, edges of woodlands, and, at times, even shrubbery in the towns. It is fond of being either on the ground or not far above it, although at times it mounts into the tops of trees for the purpose of singing. It is an active, conspicuous bird, often scratching for food in the leaves, like some sparrows. Its flight is not usually protracted, but is quick and irregular.

Its call note is very similar to the syllables 'to-whee', but its song is more elaborate and more musical, although not long.

The food of this bird is made up chiefly of wild fruit, seeds, and insects, although it includes also a little grain, but relatively little cultivated fruit. Among the insects are such injurious species as the May beetle, flies, grasshoppers, cockroaches, wire worms, boll weevils, and caterpillars.

²⁶⁸ Allen, *The Auk*, Vol. V, No. 3, July, 1888, p. 325; Griscom, *Proc. Bost. Soc. Nat. Hist.*, Vol. XLI, No. 5, January 29, 1937, pp. 124, 157.

²⁶⁹ *Proc. Bost. Soc. Nat. Hist.*, Vol. XLI, No. 5, January 29, 1937, pp. 106, 108, 121.

The nest of the Red-eyed Towhee is placed either in bushy areas, in fields, pastures, or more or less open woodland. It is usually on the ground, but sometimes in a bush or heap of brush. Occasionally it is roofed over, like an Ovenbird's nest. It is usually so well concealed, particularly when on the ground, that it is difficult to find. Its materials are usually weed-stalks, grasses, twigs, strips of bark, and leaves, with a lining of finer grasses, hair, or pine needles. The usually four to five eggs are white, with dots of brown and lilac.

The Red-eyed Towhee is a fairly common winter resident, from the first week of October to April 27, in northern, central, and southeastern Louisiana; reported north to Lake Providence, Oak Grove in West Carroll Parish, Prairie Mer Rouge, Monroe, Bienville Parish, and Belcher; west to Foster, Mansfield, Natchitoches, and Lecompte; south to Marrero, Jefferson Parish, also probably to the Rainey Wild Life Sanctuary, and Southwest Reef; and east to Slidell, Mandeville, Madisonville, Clarks, Richland Parish, Tallulah, and East Carroll Parish.

Specimens of this towhee the writer has identified from Foster, five miles east of Shreveport, January 30, 1908, collected by A. H. Howell; Monroe, December 26, 1937, by George H. Lowery, Jr.; also Marrero, February 3, 1932; Jefferson Parish, April 9, 1927, and March 27, 1897; Madisonville, January 25, 1890; and Slidell, December 14, 1932. Towhees probably of this form (not examined in the present connection) were taken by A. H. Howell at Foster, January 31, 1908, at Natchitoches, January 18, 1908, and Belcher, February 6, 1908. J. S. Campbell considers it a common winter resident in Bienville Parish, arriving in the autumn early in October. Since this subspecies is not, in the field, distinguishable from the Alabama Towhee, some of the sight records may apply, in part at least, to the latter. A. H. Howell reported the Red-eyed Towhee from Mansfield, January 23 to 25, 1908, and April 27, 1907. E. L. Moseley noted it in Richland Parish, March 31, 1923; Ned Hollister, as very common in the parishes of More-

house, West Carroll, East Carroll, and Madison, February 11 to March 20, 1904. The writer saw what was probably this towhee on the Rainey Wild Life Sanctuary on January 22, 1928; and a bird that had struck the Southwest Reef Lighthouse, October 23, 1908, was reported by S. Jones.

ALABAMA TOWHEE

Pipilo erythrophthalmus canaster Howell

The Alabama Towhee is a permanent resident in central eastern, and in northeastern Louisiana, rare in the northern part of its range in the State, fairly common elsewhere; and reported north to Tallulah, and Tendam; west to Tendam and Baton Rouge; south to Baton Rouge, Saint Francisville, and Bains; and east to Hackley and Tallulah. In non-breeding seasons it occurs south to New Orleans and to Chef Menteur. It breeds at least in June.

It is thus apparent that the breeding towhee of Louisiana, excepting the extreme southern part, is the Alabama form, but it seems not to nest in the western part of the State.

Specimens have been examined in the present connection from Baton Rouge, collected, July 5, 1933, by George H. Lowery, Jr.; from New Orleans, March 29, 1937, taken by T. D. Burleigh; and three from Chef Menteur, January 24, 1896, by George K. Cherrie.

E. R. Kalmbach noted it on several occasions at Tallulah between June 13 and July 13, 1924; and the writer observed it at Tendam on the Tensas River in Madison Parish, June 17, 1933. Edward Butler writes of its breeding at Saint Francisville in 1915, and at Bains in 1916; and George H. Lowery, Jr., discovered a nest at Baton Rouge on June 28, 1932. A. H. Howell met with a single individual at Hackley, between February 20 to 24, 1912.

NEW ORLEANS TOWHEE

Pipilo erythrophthalmus leptoleucus Oberholser,
new subspecies

Subspecific characters.—Similar to *Pipilo erythrophthalmus canaster* Howell, from Alabama, but wing and tail

shorter; the white wing-spot beyond the tips of the primary coverts smaller, sometimes almost obsolete; the sides and flanks lighter.

Measurements.—18 males: wing, 80.5-87.5 (average, 84.6) mm.; tail, 84-98.5 (93.2); exposed culmen, 13.2-16 (14.3); height of bill at base, 9-11 (9.8); tarsus, 28.5-31.5 (30.1); middle toe without claw, 18-20 (19.3); length of white spot on outermost tail-feather, 24-36 (30.4). *Three females:* wing, 77.5-78.5 (average, 78) mm.; tail, 85-91.5 (88.3); exposed culmen, 13.5-14.2 (13.7); height of bill at base, 10; tarsus, 28-28.5 (28.3); middle toe without claw, 18.5-19.5 (19).

Type.—Adult male, No. 340499, U. S. Nat. Mus., Biological Survey Collection, New Orleans, Louisiana, May 17, 1935, T. D. Burleigh; original number, 3230.

Geographic distribution.—Southeastern and central southern Louisiana.

This new race differs from the typical form of the species, *Pipilo erythrophthalmus erythrophthalmus*, in much the same way as and still more than does *Pipilo erythrophthalmus canaster*. While the female of this new form is not quite so well differentiated as the male, it still exhibits the same characters as distinguished from the Alabama towhee, *Pipilo erythrophthalmus canaster*. While the characters of this form are subject to some individual variation, the average of both the size of the white wing-spot and the general measurements are sufficient to distinguish it from the Alabama Towhee. Measurements of males of *Pipilo erythrophthalmus canaster*, as taken by Howell,²⁷⁰ which show the differences in size between the two forms, are as follows: wing, 85-93 (89); tail, 90-101 (97); exposed culmen, 14-16 (14.9); height of bill at base, 10-11 (10.2); tarsus, 28-32 (29.9); middle toe without claw, 19-21.5 (19.9); length of white spot on outermost tail-feather 26-33 (28.7).

²⁷⁰ Proc. Biol. Soc. Wash., Vol. XXVI, Oct. 23, 1913, p. 202.

Birds examined from Baton Rouge and northward in Louisiana, and also from southern Mississippi, at Saucier and Gulfport, are all referable to *Pipilo erythrophthalmus canaster*. For the differentiation of this form the writer has examined a series of 21 males and 3 females, for many of which he is indebted to the courtesy of Ambrose Daigre.

The New Orleans Towhee is a fairly common permanent resident in southeastern Louisiana, north to Mandeville, Covington, New Orleans, Jefferson Parish, Vacherie, Donaldsonville, Saint Martinville, and Gueydan; west to Gueydan and Vermilion Bay; south to the State Wild Life Refuge on Vermilion Bay, Avery Island, New Iberia, Thibodaux, and Junior; and east to Bayou Loutre in Saint Bernard Parish, Chef Menteur, also probably to Slidell. The exact eastern and northern limits of the range of this subspecies are not now determinable, owing to lack of specimens from important localities.

Specimens have been examined by the writer from Mandeville, April 13, 1876, in the museum of Tulane University; from New Orleans, February 9, 1937, April 18 and 20, 1935, May 17, 1935, January 13, March 10, May 11, June 30, and July 13, 1936, collected by T. D. Burleigh; Shell Beach, near New Orleans, June 11, 1935, T. D. Burleigh; Jefferson Parish, April 9, 1927, and also by Ambrose Daigre, June 13, 1936, and July 31, 1936; Avery Island, May 17, 1930, by E. G. Wright; seven miles south of Napoleonville, June 16, 1937, by George H. Lowery, Jr.; Chef Menteur, May 4, 1937, by Winston E. Nolan, and January 24, 1896, by George K. Cherrie.

H. H. Kopman found it common along the Mississippi River, 15 miles below New Orleans, near Scarsdale and Belle Chasse, July 10 to August 3, 1917. He detected it also at Boutte, August 23 and 24, 1917; and common in thickets at Junior, August 4 and 5, 1917. A. H. Howell noted several towhees at Covington, November 2 and 3, 1908, which were presumably of this form. A bird collected at Slidell, on August 24, 1890, not examined in the present

connection, was also probably the same. An individual of this subspecies was seen by E. R. Kalmbach four miles south of Gueydan on June 4, 6, and 23, 1925. H. H. Kopman reported it fairly common at Saint Martinville, August 9 to 12, 1917; resident at New Iberia in 1902; and as present between Donaldsonville and Vacherie, July 12 to 14, 1917. A. M. Bailey saw a few at Avery Island on May 18, 1930; J. W. Trahan listed it as breeding on the State Wild Life Refuge on Vermilion Bay in 1915; and E. R. Kalmbach noticed it at Thibodaux, May 25, 1919.

The discovery in the southern part of the State of Louisiana of a recognizable subspecies of the Red-eyed Towhee is both surprising and interesting. Apparently this new race is confined to the Gulf Coast region, since towhees examined from as short a distance to the north as Baton Rouge belong to the Alabama race, *Pipilo erythrophthalmus canaster*. In some respects it carries still farther the characters that distinguish the Alabama Towhee from the typical Red-eyed Towhee of the northern United States. Further collecting of breeding birds may extend its range to southwestern Mississippi.

EASTERN SAVANNAH SPARROW

Passerculus sandwichensis savanna (Wilson)

The several kinds of brown-streaked sparrows are under many circumstances difficult to distinguish. One of the most frequently seen of these inconspicuous birds is the Eastern Savannah Sparrow, and it is one of the small species in this general group, rather light grayish or brownish with blackish streaks above, and white below with blackish streaks on breast and sides. It has usually a slight yellow streak above the eye.

As its name suggests it frequents chiefly the meadows and marshes, and also various kinds of meadow lands on higher ground. It is, however, most common in the vicinity of the coast and in river valleys. It is a bird of the ground, and does not usually mount high into the trees, although it is frequently seen on telegraph wires, bushes, rocks, and

stumps. Its flight is normally not protracted, and the bird, when disturbed, prefers soon to drop down into the grass. It is so much like so many of the other sparrows that it is often overlooked.

Its ordinary note is a weak 'chip', and its ordinary song is not unlike that of the Grasshopper Sparrow. Like many of the other sparrows it feeds largely on weed and grass seeds and insects, although it eats a few small berries. The insects include sometimes boll weevils, other beetles, and similar kinds. It rarely ever eats grain, although occasionally it picks up some waste wheat or oats.

The nest of this species is placed on the ground, usually hidden by a bunch of grass or similar vegetation, and is situated in a meadow, pasture, grassy field, either in the lowland or upland, or at the edge of a marsh. The four to five eggs are greenish or bluish white, spotted and blotched with dark brown.

The Eastern Savannah Sparrow is a common winter resident, from September 23 to May 15, casually to June 15; recorded north to Lake Providence, Oak Grove in West Carroll Parish, Monroe, Bienville Parish, and Foster (five miles east of Shreveport); west to Natchitoches, Cameron Farm 14 miles south of Vinton, and southwestern Cameron Parish; south to southwestern Cameron Parish, Calcasieu Lake, Calcasieu Pass, Grand Chenier, Chenier au Tigre, Isle Derniere, and Grand Isle; and east to Savoie, Belair, New Orleans, Chef Menteur, Lake Catherine, Rigolets, Slidell, Mandeville, Madisonville, Hammond, Tallulah, and New Roads.

Specimens referable to this form of the species, examined by the writer in the present connection, are from Lecompte, January 11 and 13, and February 11, 1908; Foster (five miles east of Shreveport), January 28 and 30, 1908; Natchitoches, January 21, 1908; and Alexandria, January 9, 1908, all collected by A. H. Howell; Baton Rouge, April 23, 1937, and Grand Terre, April 15, 1937, George H. Lowery, Jr.; Iowa, (La.), April 7, 1899, by Vernon

Bailey; Avery Island, January 16, 1894, by George E. Beyer; Chef Menteur, January 24, 1896, and Buras, January 30 and February 1, 1896, by George K. Cherrie; Calcasieu Pass, spring of 1854, by G. Würdemann; Lake Charles, collected, January 11, 1938, by T. D. Burleigh; Grand Isle, March 19 and 27, 1931; Covington, November 15, 1889; Hammond, November 11, 1877; Mandeville, January 22, 1879; Pecan Grove, March 16, 1890; Kenner, January 12, 1890; Saint James, January 1, 1894; Jefferson Parish, January 8, 1898, April 10, 1899, and March, 1895; Chef Menteur, April 7, 1876; and New Orleans, April 20, 1888, December 2, 1888, and April 6, 1897; May 3, 1935, and May 4, 1937. Other specimens from New Orleans were obtained by R. W. Shufeldt, February 10, 1883; by Andrew Allison, April 23, 1898; and by Stanley C. Arthur, February 10, 1916; Lobdell, January 7, 1903, taken by Andrew Allison; Madisonville, June 5, 1886, by George E. Beyer; in the State Capitol at Baton Rouge, also from New Orleans, December 7, 1932, and January, 1933.

The writer found this species common in southwestern Cameron Parish at the Orange-Cameron Land Company's club house and between the club house and the beach of the Gulf of Mexico, January 24, 25, and 26, 1928; and along Black Bayou in northwestern Cameron Parish, January 24, 1928. He noted it also at Calcasieu Lake, December 30, 1932; at Grand Chenier on the following day; on the Rainey Wild Life Sanctuary, January 22 and 23, 1928; at Avery Island, December 28, 1932; and at Kaplan, December 29, 1932. E. R. Kalmbach reported it common on the Cameron Farm 14 miles south of Vinton in early May of 1919, and secured a specimen at Gueydan, May 3, 1925. H. H. Kopman listed it from Jennings, January 30 and 31, 1918; Belair, October 21, 1917; Lake Catherine, April 4 and 5, 1918; Oaklawn near Lacombe, February 24, 1918; Savoie, April 14, 1918; and New Roads, December 15, 1917. J. S. Campbell says that this sparrow is a common winter resident in Bienville Parish from October to March, ranging regularly over suitable open fields of the region. A. H. Howell

observed several individuals and collected one between October 28 and November 1, 1908, at Slidell. Andrew Allison met with it at Lobdell, May 12, 1902, and New Orleans, September 23, 1895; and noted a single bird at Covington as late as June 15. This bird is particularly numerous on the prairies of the Gulf Coast region of southwestern Louisiana.

NORTHWESTERN SAVANNAH SPARROW

Passerculus sandwichensis anthinus Bonaparte

This form of the Savannah Sparrow is of only casual or accidental occurrence in southern Louisiana.

The single record consists of a male collected by George H. Lowery, Jr., at Baton Rouge, on April 23, 1937, and recently examined by the writer.

This race of the Savannah Sparrow, although not formerly recognized as distinct, was recently reinstated by the writer in Scientific Publications of the Cleveland Museum of Natural History, Volume 1, No. 4, December 31, 1930, pp. 109-111. It is a large form with relatively brownish coloration above, and with a strong yellowish tinge about the head. It breeds from southeastern to central southern Alaska, and for a distance eastward. For the winter it migrates southward, particularly along the Pacific Coast.

CHURCHILL SAVANNAH SPARROW

Passerculus sandwichensis oblitus Peters and Griscom

This form of the Savannah Sparrow is a winter resident in Louisiana, from December 1 to May 13, and is probably more common than the records indicate, occurring, so far as known, in the central and southern parts of the State.

Specimens have been examined by the writer as follows: two collected at Chenier au Tigre, on January 5, 1934, and another on December 15, 1925, by A. M. Bailey; a male and a female taken by A. H. Howell, at Lecompte, on January 13, 1908; others at New Orleans on December 1, 1936, May 3, 1935, December 7, 1935, and December 18,

1937, by T. D. Burleigh; February 10, 1916, by S. C. Arthur; others by G. E. Beyer, on March 23, 1890; at Rayne, February 25, 1889, by G. Kohn; Grand Terre, April 15, 1937, by T. D. Burleigh; Isle Derniere, February 10, 1916, A. M. Bailey; Nine Mile Point (Marrero), December 10, 1932, by Winston E. Nolan; three at Chef Menteur, January 24, 1896, and two at Buras, January 29, 1896, by G. K. Cherrie.

Other examples are recorded by Peters and Griscom²⁷¹ from Avery Island, May 12 and 13, 1930, taken by E. G. Wright; several in winter from New Orleans, and from Louisiana without indication of more definite locality.

This new race of the Savannah Sparrow, recently described by Peters and Griscom,²⁷¹ breeds on the western side of Hudson Bay. It is a very dark form, blackish above, with black streaking below.

EASTERN GRASSHOPPER SPARROW

Ammodramus savannarum australis Maynard

The Eastern Grasshopper Sparrow is a casual winter visitor to southern Louisiana. There are but two records for the State: an adult male captured by Thomas D. Burleigh at New Orleans on March 19, 1936; and another male obtained at Lake Charles on January 11, 1938, by the same ornithologist.

WESTERN GRASSHOPPER SPARROW

Ammodramus savannarum perpallidus (Coues)²⁷²

The Western Grasshopper Sparrow might easily have obtained its name from either its habit of eating grasshoppers, or from its insect-like song. It is called also 'yellow-winged sparrow', from the yellow on the bend of the wing. It is a small, inconspicuous bird about the size of the Savannah Sparrow, but with a somewhat shorter tail.

²⁷¹ Bull. Mus. Comp. Zool., Vol. LXXX, No. 13, January 19, 1938, pp. 454-459.

²⁷² *Ammodramus savannarum binaculatus* of the 1931 A. O. U. Check-List. For explanation of this change of name, see van Rossem, Trans. San Diego Soc. Nat. Hist., Vol. VII, No. 30, May 31, 1934, pp. 359-360.

It is light brown above, rather more spotted than streaked with reddish brown and blackish. Below it is buffy white, without streaks, and more deeply buff on the anterior parts.

It lives in meadows and grasslands of various kinds, in river valleys or uplands. It is a bird mostly of the ground, and, although it does alight in trees at times and sometimes even sings from such perches, it lives mostly on or near the ground. It does not fly far, but when disturbed soon drops again into the grass, as it apparently prefers to run rather than take to wing. Its common perch for singing or observation is the top of a weed or spire of grass.

Its call note is a weak 'tsip', and its song, which is anything but loud, very much resembles some insect notes.

Its food consists largely of insects, and it destroys a great many grasshoppers, locusts, and other pests. such as cutworms and other caterpillars.

The nest is built on the ground, usually on prairie, pasture, or other grassy land, but sometimes in cultivated areas, in a slight depression, and concealed under a tuft of grass or other plants. This is composed of grass and slender weed-stalks, and lined with hair or rootlets. The eggs are usually three to five, white, with spots and blotches of brown, purple, and lilac.

The Western Grasshopper Sparrow is a rare permanent resident in northwestern and southeastern Louisiana, from Natchitoches and Mansfield south to Bayou Sara, Lobdell, Hohen Solms, New Orleans, Hester, and Diamond; and east to New Orleans and Hackley; probably also throughout at least the greater portion of the remainder of the State.

Since the western race of this species is the breeding bird of Arkansas and Illinois it is probably also the breeding form of Louisiana. This species is evidently of much less frequent occurrence in Louisiana than in former years, particularly during the summer months.

A. H. Howell obtained a single specimen at Natchitoches, January 21, 1908; and George H. Lowery, Jr., one at Pride in East Baton Rouge Parish, on December 19, 1937; and both have been identified by the writer. Other birds from the State, collected, but not identified in the present connection, which relate probably to this form are: a single male, taken, May 3, 1897, by Andrew Allison at New Orleans; two birds, April 27, 1907, and January 24, 1908, at Mansfield, by A. H. Howell.

Andrew Allison states that it breeds near New Orleans; and H. H. Kopman says that formerly it was common in Audubon Park in the city of New Orleans, although apparently it has now disappeared from that locality. About 1895, H. H. Kopman found it abundant in Saint James Parish. C. W. Beckham noted it common in April, 1887, at Bayou Sara; Andrew Allison reported its arrival at Lobdell, April 4, 1903; H. W. Pring at Hester, April 25, 1902; H. L. Ballowe at Diamond, April 28, 1902; H. H. Kopman at New Orleans, April 3, 1898, and March 30, 1895. K. Geist listed it as breeding at Hohen Solms in May, 1916; and A. H. Howell identified it at Hackley, February 20 to 24, 1912.

LECONTE SPARROW

Passerherbulus caudacutus (Latham)

The Leconte Sparrow is a rare winter resident, from December 22 to April 25, in northern and southern Louisiana, northwest to Bienville and Natchitoches, and south to the Rainey Wild Life Sanctuary.

A specimen was obtained by A. H. Howell at Natchitoches on January 17, 1908. Andrew Allison found this species about Lobdell, from April 7, 1903, on several dates up to April 25, 1903.²⁷³ George E. Beyer reports finding it at Avery Island during January, and the specimen collected by him at this locality on February 9, 1895, is now in the museum of Tulane University at New Orleans. George H. Lowery, Jr., collected one bird at Monroe on

²⁷³ The Auk, Vol. XXI, No. 4, October, 1904, p. 480.

December 22, 1932. A single Leconte Sparrow was identified by Charles W. Townsend on the Rainey Wild Life Sanctuary on December 3, 1925.²⁷⁴ J. S. Campbell considers it a rather common winter resident in Bienville Parish, where he collected specimens at Bienville during the winter of 1932; at Friendship during the winter of 1933; and at Lucky in February, 1934.

WESTERN HENSLOW SPARROW

Nemospiza henslowii henslowii (Audubon)²⁷⁵

The Western Henslow Sparrow is a rare winter visitor, from November 2 to May 15, in most parts of Louisiana, recorded from Covington and from Cameron Farm in Cameron Parish, 14 miles south of Vinton, north to Monroe and Bienville.

E. R. Kalmbach collected a single individual at Cameron Farm, May 15, 1919; and H. H. Kopman has recorded it from Covington, November 2, 1899, and January 23, 1905; and states that Andrew Allison observed it at New Orleans, November 30, 1899.²⁷⁶ George H. Lowery, Jr. noted it at Monroe²⁷⁷ on December 21, 1930, and also during the early part of January. He observed two individuals on December 27, 1934, at the same locality. J. S. Campbell considers it a rather common winter visitor at Bienville, seen usually in December and January.

SOUTHERN SHARP-TAILED SPARROW

Ammospiza caudacuta diversa (Bishop)

This little known race of the Sharp-tailed Sparrow is a casual winter visitor in the coast region of southern Louisiana.

The only occurrences that have thus far come to light are two males from Buras in the Mississippi River Delta,

²⁷⁴ Pearson, Circ. Nat. Asso. Aud. Soc., No. 11, February 15, 1928, p. 7.

²⁷⁵ *Passerherbulus henslowi henslowi*, of the 1931 edition of the A. O. U. Check-List.

²⁷⁶ The Auk, Vol. XXXII, No. 1, January 1, 1915, p. 25.

²⁷⁷ Bird Lore, Vol. XXXIII, No. 1, February 2, 1931, p. 69; and Bull. La. Poly. Inst., Vol. XXIX, No. 4, November, 1931, p. 50.

captured by George K. Cherrie on February 2 and 6, 1896, respectively.

The Southern Sharp-tailed Sparrow was first described by Louis B. Bishop as *Ammodramus caudacutus diversus*, in *The Auk*, Vol. XVIII, No. 3, July, 1901, p. 269, from a specimen obtained at Wanchese, Roanoke Island, North Carolina. Notwithstanding that it breeds on the Atlantic coast of the Middle United States, from eastern Delaware to eastern Virginia, possibly to eastern North Carolina, it is intermediate in characters between the typical Sharp-tailed Sparrow, *Ammodramus caudacutus caudacutus*, of the New Jersey coast, and the Nelson Sparrow, *Ammodramus caudacutus nelsoni*, of the northern Great Plains. It is darker than the former, particularly on the upper parts; and lighter, more heavily and distinctly streaked below than the latter.

ONTARIO SHARP-TAILED SPARROW

Ammodramus caudacutus altera Todd

The Ontario Sharp-tailed Sparrow is a winter resident in the coast region of Louisiana, perhaps more common than present information indicates.

In fact, the only record for the State is a single male collected by George K. Cherrie at Buras on February 2, 1896.

This subspecies has just recently been described by W. E. C. Todd, in *The Auk*, Vol. LV, No. 1, January, 1938, p. 117, from specimens obtained in the James Bay region of Hudson Bay, his type being from East Main, James Bay, Quebec. It is intermediate in characters between the Acadian Sharp-tailed Sparrow, *Ammodramus caudacutus subvirgatus*, and the Nelson Sparrow, *Ammodramus caudacutus nelsoni*, but sufficiently different from both to constitute a recognizable race. It breeds in the country about the southern end of Hudson Bay, and winters in the southeastern United States.

NELSON SPARROW

Ammospiza caudacuta nelsoni (Allen)

The Nelson Sparrow is a rare winter resident, from October 24 to May 20, casually to June 7, in the Gulf Coast region of southern Louisiana; recorded from Sabine Pass, Rainey Wild Life Sanctuary, Chenier au Tigre, Marsh Island, Grand Isle, Buras, and the mouth of Main Pass in the Mississippi River Delta; north to Freemason Island, Lake Pontchartrain, New Orleans, and New Iberia.

Two specimens seen in the museum of the Louisiana Department of Conservation at New Orleans were taken at Grand Isle, May 14, 1931; another in the museum of Tulane University at New Orleans, was collected by H. H. Kopman at Sabine Pass, May 20, 1907. This last specimen may be the same as that recorded by H. H. Kopman as having been obtained at this locality on May 19, 1907.²⁷⁸ Other examples identified in the present connection were collected by T. D. Burleigh at Grand Isle, on April 13 and 15, 1937; and another at Buras on February 2, 1896, by G. K. Cherrie. A. M. Bailey collected the Nelson Sparrow at Chenier au Tigre on December 15, 1925 (two specimens seen by the present writer); observed a few individuals on January 3, 1934, and took several specimens at the mouth of Main Pass in the Mississippi River Delta on October 24, 1928; and E. R. Kalmbach secured one on Freemason Island in southeastern Louisiana on June 7, 1919. E. S. Hopkins found it fairly common in the marshes about Grand Isle, where T. D. Burleigh collected a male on April 15, 1937; and H. H. Kopman noted it abundant on Marsh Island, May 16, 1907. L. E. Hicks reported it from New Iberia on December 26, 1931. A. B. Blackmore observed it at New Orleans, November 1, 1895; and it was seen by Charles W. Townsend on the Rainey Wild Life Sanctuary on December 3, 1925. George E. Beyer states that he found it fairly common about Lake Pontchartrain.

²⁷⁸ The Auk, Vol. XXXII, No. 1, January 1, 1915, p. 25.

HOWELL SEASIDE SPARROW

Thryospiza maritima howelli (Griscom and Nichols)²⁷⁹

The Howell Seaside Sparrow is a common permanent resident on the Gulf Coast of southeastern Louisiana, east of the Mississippi River, from Battledore Island and Breton Island, north to Curlew Island, Chandeleur Island, Freemason Island, Brush Island, Isle au Pitre, Grassy Island, Lake Catherine and New Orleans; also a rare winter visitor on the coast of Louisiana west of the Mississippi River. It breeds from April to July; and there is a record of young in the nest as late as July 23.

A. M. Bailey reports this sparrow as breeding on Breton Island, Brush Island, and Chandeleur Island. E. R. Kalmbach collected three specimens on Freemason Island, June 7, 1919, and one south of Lake Catherine, May 23, 1919. E. G. Wright took a specimen on Breton Island, June 3, 1930; and A. M. Bailey another on North Island, June 11, 1930. Examples from New Orleans were collected by T. D. Burleigh on April 19, August 21 and 24, 1935. H. H. Kopman found a nest containing young on Battledore Island, July 23, 1908; and the writer observed it on North Island, June 4, 1933; on Grassy Island in Lake Borgne, and Isle au Pitre, June 3, 1933; and on Curlew Island, June 5, 1933.

West of its breeding range where it wanders after the nesting season, there is but a single record for the State of Louisiana, that of a specimen in the museum of Tulane University, collected at Grand Isle, September 8, 1900, by George E. Beyer.

LOUISIANA SEASIDE SPARROW

Thryospiza maritima fisheri (Chapman)²⁸⁰

This is an inconspicuous sparrow of moderate size, brownish above with blackish streaks; a yellowish line over the eye, and dull grayish white below, the breast and sides more or less streaked with brown.

²⁷⁹ *Ammospiza maritima howelli* of the 1931 edition of the A. O. U. Check-List.

²⁸⁰ *Ammospiza maritima fisheri* of the 1931 edition of the A. O. U. Check-List.

It is an inhabitant of the salt marshes and is rarely seen elsewhere, living much on the ground and in the grass and other vegetation, though sometimes seen on bushes and even low trees. It is a rather shy bird, remaining much out of sight in the vegetation of the marsh unless flushed, and then flying but a short distance and dropping again into the grass. Its flight is rather strong, but often it does not fly far, although it is capable of sustained flight.

Its song is a rather weak, not particularly musical performance. While ordinarily this song is uttered from the top of a reed or low bush, the bird sometimes gives forth a short flight song.

The food of this bird reflects the character of its habitat—marine worms, crustaceans, dragonflies, grasshoppers, moths, beetles, bugs, and spiders, with some mollusks.

The Louisiana Seaside Sparrow breeds in the marshes, where it places its nest on or in the marsh grass or low bushes, or on a tangle of grass, and usually at least a few inches above the ground. It is composed of marsh grass, and lined with finer material of the same kind. The three to four eggs are whitish, spotted with reddish brown.

This sparrow is one of the interesting inhabitants of the areas on the coastal marshes that harbor relatively few different kinds of birds. Its retiring habits are the reason for its being so little known, except to those who make a special study of birds.

The Louisiana Seaside Sparrow is an abundant permanent resident on the Gulf Coast of southern Louisiana, from the Mississippi River westward, and from Sabine Pass, Cameron, Chenier au Tigre, Rainey Wild Life Sanctuary, Marsh Island, Lake Barre, Grand Isle, Ronquille Bay, and the Mississippi River Delta, north to Four Bayou, Grand Caillou Bayou near Dulac, Bayou Cutler, Dupres Canal, New Orleans, and Junior. It breeds from April to July, and there is a record of eggs as early as April 8.

The Louisiana Seaside Sparrow was originally described as a new subspecies by Frank M. Chapman from a speci-

men taken at Grand Isle, Louisiana, June 9, 1886.²⁸¹ The writer has examined specimens from Sabine Pass, collected, May 19, 1907, by H. H. Kopman; New Orleans, February 5, 1925; also others taken by T. D. Burleigh, April 19, August 21, and September 14, 1935; Grand Pass, June 8, 1919, A. M. Bailey; Grand Isle, June 2 and 9, 1933, Ambrose Daigre; September 8, 1900, George E. Beyer; June 21, July 5 and 15, 1937, S. Ward; April 13, 1937, and September 17, 1935, T. D. Burleigh; and in the museum of Tulane University, June —, 1866. A. K. Fisher gathered many specimens at Grand Isle from June 6 to 9, 1886. A. M. Bailey obtained ten specimens at the mouth of Main Pass in the Mississippi River Delta, on October 24, 1928; at Chenier au Tigre others on January 5, 1934, and May 25, 1930; C. C. Sperry, at Quarantine Station (Cubit's Gap), Mississippi River Delta, August 3, 1925, and on Marsh Island, July 20, 1925; E. G. Wright, in Cameron Parish, May 23, 1930; G. K. Cherrie at Buras, February 2, 1896; and S. Ward, at Bassa Bassa, July 27, 1937.

H. H. Kopman reported this sparrow common in the tidal marsh at Junior, August 4 and 5, 1917; and the writer found it particularly numerous in the marshes bordering Four Bayou, Little Go-to-Hell Bayou, and Big Go-to-Hell Bayou, in Terrebonne Parish, June 22, 1933. He noted it also on Tortillon Bayou in southern Terrebonne Parish, and Grand Caillou Bayou, south of Dulac, June 22, 1933; on Ronquille Bay, June 8, 1933; along Bayou Cutler, and Dupres Canal in Jefferson Parish, June 10, 1933. At Cameron, W. L. McAtee saw many individuals on November 29, 1910; and on the Rainey Wild Life Sanctuary, Charles W. Townsend recorded it in December, 1925. The writer detected it on the Rainey Wild Life Sanctuary, January 22, 1928; and about Lake Barre, very common on December 23, 1932.

²⁸¹ The Auk, Vol. XVI, No. 1, January, 1899, p. 10.



HOWELL SEASIDE SPARROW (*Thryospiza maritima howelli*) ON NEST.
North Island, Mississippi Sound, La., June 11, 1930.
(Photograph by A. M. Batley.)

EASTERN VESPER SPARROW

Pooecetes gramineus gramineus (Gmelin)

The Eastern Vesper Sparrow in general appearance is very much like the Savannah Sparrow, but larger, and has conspicuous white spots on the outer tail-feathers, by which it can be easily distinguished when in flight it spreads its tail.

It is a bird of the meadows, fields, and other grassy areas, of roadsides, fence rows, and similar places. Other names for this bird are 'bay-winged bunting', in allusion to the rather inconspicuous chestnut patch on the bend of the wing, 'grass finch', or 'ground bird', which, of course, relate to its habits. It lives chiefly on or near the ground, but often is to be seen on trees, wires, or fences, particularly during migration.

Its song is not unlike that of the Song Sparrow, although it is not quite so emphatic, and is more rapidly uttered. It has a habit of occasionally indulging in a flight song, particularly in the evening, whence its name Vesper Sparrow.

The food of this bird is, like many of the sparrows, partly insect and partly vegetable. At certain times of the year it feeds largely on insects, and disposes of such pests as army worms, cutworms, and other caterpillars, locusts, grasshoppers, and weevils. It eats also some earthworms and snails. The vegetable part of its diet is composed chiefly of weed seeds, seeds of grass, and grain, though the last is mostly waste; and the bird, therefore, is very beneficial.

Its nest is built on the ground, usually sunk below the surface, and is not usually so well concealed as the nests of some of the other sparrows. It is placed in a grain field, or in almost any other place where grass and weeds are to be found. It is composed of grass, weed-stalks, and rootlets, and lined with finer materials of similar character. The four to five eggs are greenish white or grayish white, with markings of reddish or purplish brown, usually in the form of blotches and dots, or with scrawls of dark

color. The incubating female sits very closely, and usually will not leave the nest until almost trodden upon. The young remain in the nest usually for about eight to twelve days and are well taken care of by the parents for a while thereafter.

The Eastern Vesper Sparrow is a fairly common but local winter resident, from September, casually from August 5, to April 30, throughout most of Louisiana; reported north to Lake Providence, West Carroll Parish, Mer Rouge, Monroe, Ruston, and Bienville Parish; west to Mansfield, Natchitoches, and Cameron Farm in Cameron Parish 14 miles south of Vinton; south to Cameron, Grand Chenier, Crowley, and Southwest Reef at the mouth of Atchafalaya Bay; and east to New Orleans, Slidell, Mandeville, Covington, Hammond, Lobdell, West Feliciana Parish, and near Tallulah.

Specimens of this race have been determined from Natchitoches, January 17, 18, and 21, 1908, and Mansfield, January 23, 1908, all collected by A. H. Howell; New Orleans, January 11, and February 17, 1937, by T. D. Burleigh; Southwest Reef Lighthouse at the entrance to Atchafalaya Bay, April 21, 1907, S. Jones; and a specimen in the museum of Tulane University, taken at Hammond, December 19, 1878.

Ned Hollister found this species common about Mer Rouge, February 11, 1904, and noted it also between Tallulah and Eldorado in Madison Parish, March 15, 1904. A. H. Howell saw several at Monroe, January 2, 1908; and observed it also at Slidell, November 1, 1908. H. H. Kopman reported it from Hammond, January 24 and 25, 1918; from Oaklawn near Lacombe in Saint Tammany Parish, February 24, 1918; and at New Orleans, March 28, 1896. George E. Beyer met with it at New Orleans, August 5, 1893; and Andrew Allison, at Lobdell, March 20, 1903. E. R. Kalmbach noticed it at Cameron Farm, April 30, 1919; and W. L. McAtee at Cameron, November 30, 1910. The writer ascertained its presence at Grand Chenier, December 31, 1932; and at Crowley, December 29, 1932.

WESTERN VESPER SPARROW

Pooecetes gramineus confinis Baird

The Western Vesper Sparrow is a casual winter visitor in northern Louisiana. There is but a single record for the State, that of an individual taken by A. H. Howell at Natchitoches, January 17, 1908.²⁸²

EASTERN LARK SPARROW

Chondestes grammacus grammacus (Say)

The Eastern Lark Sparrow is a rare and local permanent resident, though less numerous in winter, in most parts of Louisiana; reported north to Monroe and Bienville; west to Mansfield and Iowa (La.) ; south to near Gueydan, Saint Martinville, Saint Mary Parish, and Buras; and east to Diamond, Saint James Parish, Caldwell Parish, and Thomastown; also at least an occasional winter resident in the northwestern part of the State, near Bienville; in migration south also to Grand Isle. It breeds in May and June; and there is record of eggs on May 20.

Specimens examined from Louisiana indicate that the breeding bird of the State is the eastern race of the Lark Sparrow. The writer has seen examples from Bienville, collected on July 18, 1933, by J. S. Campbell; from Monroe, June 24, 1933, by George H. Lowery, Jr.; from Buras, February 1, 1896, by George K. Cherrie; and in the museum of the Louisiana Department of Conservation at New Orleans, taken at Grand Isle, April 6, 1931.

J. S. Campbell considers it a common summer resident at Bienville, where it breeds in May. H. H. Kopman has recorded it from Caldwell, Saint James, Plaquemines, and Saint Mary parishes; and he observed several individuals at Thomastown in Madison Parish, July 22, 1896. George H. Lowery, Jr., reports it fairly common at Monroe in summer, and as seen in Alexandria, July 30, 1931. The writer also saw it at Monroe on June 17, 1933. A. H. How-

²⁸² Oberholser, Proc. Biol. Soc. Wash., Vol. XXVII, May 11, 1914, p. 101.

ell obtained a specimen at Mansfield, May 2, 1907; and found it fairly common at that locality, from April 26 to May 3 of the same year. Vernon Bailey noticed one at Iowa (La.), April 9, 1899; and E. R. Kalmbach, one at a point nine miles southwest of Gueydan, September 20, 1925. H. H. Kopman noted it at Saint Martinville, between August 9 and 12, 1917; and H. L. Ballowe, a few individuals at Diamond on July 20, 1902.

The only winter record for Louisiana is a flock of 50 to 75 birds seen by J. S. Campbell near Bienville, on January 12, 1934.

WESTERN LARK SPARROW

Chondestes grammacus strigatus Swainson

The Western Lark Sparrow, although a common breeding bird of Texas, is apparently of but casual appearance in Louisiana. The sole record for the State is a specimen collected at New Orleans on September 15, 1935, by Thomas D. Burleigh.

BACHMAN SPARROW

Peucaea aestivalis bachmanii (Audubon)²⁸³

Little is known of the occurrence of this bird in Louisiana, since most of the State at least is occupied by the Illinois Sparrow, *Peucaea aestivalis illinoensis*. Two birds, which apparently represented a mated pair of the Bachman Sparrow were collected by George H. Lowery, Jr., on April 20, 1937, at Pine Grove, in Saint Helena Parish. It is possible that they represent the breeding form in that part of Louisiana, which is one of the northernmost parishes of the southeastern end of the state.

It apparently winters south to the coast region in the southeastern part of the State, since the writer has examined a specimen obtained by Winston E. Nolan at Slidell, on January 29, 1938.

²⁸³ *Aimophila aestivalis bachmani* of the 1931 edition of the A. O. U. Check-List.

ILLINOIS SPARROW

Peucaea aestivalis illinoensis Ridgway

The Illinois Sparrow is a rare and local permanent resident in the pine and mixed woodlands of northern and southeastern Louisiana, reported north to Quimby, Monroe, Lucky, and Castor; west to Mansfield; south to Baton Rouge; and east to Madisonville, Hammond, Clinton, and Quimby. It breeds in May and June; and there are records of eggs in late May and early June.

Specimens of this bird have been identified from Mansfield, collected, April 27, 1907, by A. H. Howell; in the museum of Tulane University from Hammond, March 4, 1876; Clinton, June 11, 1888; and from Beauvoir, Mississippi, taken, September 8 and 11, 1896. George H. Lowery, Jr., considers it a common permanent resident of the pine woodlands about Baton Rouge; and observed it at Monroe on December 27, 1934. At Mansfield A. H. Howell found this sparrow numerous about old pastures where there were occasional young pines, April 26 to May 3, 1907. George E. Beyer reported in 1891 that it bred at Madisonville; and J. K. Strecker found it about Frierson in De Soto Parish. The writer observed a single individual four miles north of Quimby on June 16, 1933. J. S. Campbell says that it is common at Lucky, Castor, and Saline, and wherever else in Bienville Parish there are pine woodlands.

Birds of this species from Iowa, Illinois, and the Mississippi valley south to Louisiana and Texas differ from *Peucaea aestivalis bachmanii* of South Carolina and adjacent states in their paler, more extensively rufous upper parts, and in restriction of the black streaks on the back. These characters seem to be sufficiently consistent to warrant separation of the Mississippi valley bird as a different subspecies, which is, of course, the form found in Louisiana. This race has already received a name, however, as it was long ago described as *Peucaea illinoensis* by Robert Ridgway²⁸⁴ from specimens taken at Mount Carmel, Illinois.

²⁸⁴ Bull. Nutt. Ornith. Club, Vol. IV, No. 4, October, 1879, p. 219.

SLATE-COLORED JUNCO

Junco hyemalis hyemalis (Linnaeus)

A bird about the size of the Song Sparrow, slate-colored, except for the posterior lower parts, and with a considerable amount of white in the outer tail-feathers, is one of the common and conspicuous inhabitants of the countryside during the winter. It is the Slate-colored Junco, or 'slate-colored snowbird', of the north.

It is fond of undergrowths of woodlands, edges of woodlands, brushy pastures, thickets, and bushes, everywhere, even in the streets of the towns. It is to be found in all situations, from the ground to the tops of the highest trees, although it prefers bushes and the ground. It is a bird of rather jerky, though sometimes prolonged flight, and often assembles into companies of considerable size, with which there may be associated several other kinds of sparrows.

Its ordinary note is a rather weak 'chip', and its ordinary song is a rather monotonous trill of not very musical character.

The food of this well-known bird consists of such insects as leaf beetles, caterpillars, grasshoppers, ants, beetles, and bugs, with a few spiders and similar invertebrates. It eats also great numbers of weed seeds, such as those of the chickweed, sorrel, sedges, wild sunflower, lamb's quarters, and even Russian thistle, and wild fruits and berries.

The nest of this bird is placed in woodlands, edges of woodlands, in thickets, or even in fields, usually on the ground, on a slope, often concealed by rocks or roots. It is composed of various kinds of weeds, grasses, bark, and roots, and lined with rootlets, fine grasses, and animal hair. The eggs are commonly four to five, bluish or greenish white, with many spots of brown and lilac.

The Junco is often a familiar visitor about houses, in both country and town, and owing to its fondness for seeds of

various kinds it is easily attracted to a feeding shelf, particularly in the winter, when its ordinary supplies of food may be more or less unavailable.

The Slate-colored Junco is a winter resident, from October 10 to May 15, common in northern, uncommon in southeastern Louisiana, and apparently not recorded from the southwestern part of the State. It has been reported north to Lake Providence, Oak Grove in West Carroll Parish, Monroe, Bienville, and Shreveport; west to Mansfield and Lecompte; south to New Orleans; and east to Mandeville, Covington, Hackley, Saint Francisville, Jackson, Tallulah, and East Carroll Parish.

Specimens have been examined from Mansfield, January 23, 1908, and Clarks, January 7, 1908, both collected by A. H. Howell; and New Orleans, January 15, 1936, by T. D. Burleigh. This junco was taken by him also at Lecompte on January 13, 1908, but he did not find many at that point. J. S. Campbell has noted it at Bienville, October 10, 1931, and April 25, 1932; and H. H. Kopman, at Shreveport, March 31, 1928. E. L. Moseley noticed it in Richland Parish from March 31 to April 3, 1923; and Ned Hollister observed it in large numbers in many places in Morehouse, East Carroll, West Carroll, and Madison parishes between February 11 and March 20, 1904. George H. Lowery, Jr., considers it a fairly common winter bird at Saint Francisville, Jackson, Melville, and Carr's Creek in West Feliciana Parish. H. H. Kopman reported it at Ponchatoula, March 26, 1918; and at Covington, November 28 to December 2, 1899. A. H. Howell met with only a few at Hackley, February 20 to 24, 1912. Andrew Allison saw it at New Orleans, March 29, 1896; and H. H. Kopman, on November 20, 1915.

EASTERN TREE SPARROW

Spizella arborea arborea (Wilson)

The Eastern Tree Sparrow is a rare winter visitor in northern Louisiana.

The only record that we have been able to find is by Ned Hollister, who reported the species common about Mer Rouge, February 11 to 16, 1904; but it apparently disappeared from that locality soon after the latter date, since he did not find it on the occasion of his later visit to Mer Rouge.

EASTERN CHIPPING SPARROW

Spizella passerina passerina (Bechstein)

The Chipping Sparrow has received its name from its monotonous note, and the same name frequently is shortened into 'chippy'. Its other name of 'hair bird' comes from the frequent use of horsehair in its nest.

The Eastern Chipping Sparrow is a small brown sparrow with a conspicuously chestnut head, dark streaked back, a pale gray eyebrow, and plain grayish white under parts.

It is one of the most familiar of our native sparrows, is fond of the vicinity of houses and other buildings, and is even one of the inhabitants of city parks and streets. Beyond the habitations of man it lives about the fields, along fencerows, and in brushy areas, in thickets, and along the edges of woodlands, and even along the shores of streams and lakes. It has a rather strong, somewhat quick flight, and frequently gathers into flocks of considerable size, often associating with Juncos, and Field and other sparrows.

Its ordinary note is a rather sharp 'chip', and its common song is a rather unmusical succession of similar notes.

In food habits it is much like other small sparrows, for it lives on insects and seeds. It is also a beneficial species in that it destroys a great many injurious insects, such as the cabbage and canker worms, army worms, locusts, grasshoppers, and weevils, and it takes great numbers of seeds of common weeds, such as ragweed, of grasses, and also berries, usually those of wild species.

Its nest is a very well constructed dwelling composed of grass and rootlets, and lined with various kinds of animal

hair, often horsehair, or even downy vegetable fibers. The three to four eggs are bluish green, spotted with black and brown and lilac. The nest is often in close proximity to a human dwelling, and the birds seem to be practically undisturbed by the presence of man.

This is another of the birds that is attracted to a feeding shelf at certain times of the year.

The Eastern Chipping Sparrow is a permanent resident, uncommon during the summer, locally common in the winter, in northern, southwestern, and southeastern Louisiana; reported north to Tallulah, Richland Parish, Monroe, and Caddo Lake; west to Cross Lake, Mansfield, ten miles south of Crichton, Hagewood, Robeline, Florien, and Anacoco; south to Iowa (La.), Trout, Bayou Sara, Hammond, Ponchatoula and Mandeville; and east to Mandeville, Madisonville, Covington, Amite, Hackley, West Feliciana Parish, Clarks, and Tallulah. It is apparently absent from the Mississippi valley in central southern Louisiana; but it is a winter resident, though not common, in the southwestern part of the Gulf Coast region, south to the lower Vermilion River, the Rainey Wild Life Sanctuary, and Gueydan. It breeds mostly in May and June.

Specimens of this sparrow in the collection in the museum of Tulane University at New Orleans have been identified from Hammond, March 14, 1876; Madisonville, April, 1886; and Mandeville, March 28, 1875; and in the Biological Survey from New Orleans, January 15, 1936, collected by T. D. Burleigh. A. H. Howell found it fairly common at Mansfield, April 26 to May 3, 1907, and collected two birds on January 23, 1908, at this place. E. R. Kalmbach saw a single individual south of Tallulah, June 17, 1924; and E. L. Moseley met with some in Richland Parish, April 4, 1923. J. S. Campbell considers it an abundant permanent resident in Bienville Parish. At Clarks, A. H. Howell noted a few, January 3 to 8, 1908; and the writer observed the Eastern Chipping Sparrow at Caddo Lake, Cross Lake, and ten miles south of Crichton, June 18, 1933; at Hagewood, Robeline, Florien, and Anacoco on

June 19, 1933. Vernon Bailey noticed a few birds at Iowa (La.), April 6 to 9, 1899; and the writer listed it at the Rainey Wild Life Sanctuary and near Abbeville on the lower Vermilion River, January 22, 1928. E. R. Kalmbach obtained a single individual south of Gueydan, March 9, 1926. George H. Lowery, Jr., gives it as a fairly common permanent resident at Baton Rouge. The writer saw it at Trout, in central Louisiana, June 16, 1933. H. H. Kopman reported it from Amite, March 27, 1918; from Hammond, April 26, 1918, and January 24 to 25, 1918; Ponchatoula, March 25 to 27, 1918; and Covington, November 11, 1899. A. H. Howell encountered a flock of about 50 or 60 feeding in a grassy cornfield at Hackley, February 20 to 24, 1912.

EASTERN FIELD SPARROW

Spizella pusilla pusilla (Wilson)

Of the general size and shape of the Chipping Sparrow, the Eastern Field Sparrow is usually to be distinguished from that bird by its reddish bill and more reddish upper surface, and lack of the light gray eyebrow of the other bird. It is much the same in general behavior as the Chipping Sparrow, but it lives less about human habitations. Its favorite places are fields, pastures, fencerows, thickets, and the edges of woodlands. It is found often in flocks, associated with Chipping Sparrows and Juncos.

Its ordinary call note is a weak 'tsip', but its song is clear and musical, the ordinary performance beginning slowly and increasing in rapidity of the notes until they run together.

Insects such as the May beetle, grasshoppers, bugs, ants, flies, plant lice, and caterpillars, with spiders, form the chief part of its animal food, but it feeds also largely on the seeds of weeds and grasses, together with a small quantity of grain. Like the Chipping Sparrow it is a useful bird about the farm and garden.

It builds its nest on the ground or in bushes, in fields, gardens, in the more open lands, or on the edges of the forest. It lays three to five eggs of a grayish or bluish white, with spots of reddish brown and lavender. The young sometimes leave the nest when they are six days old, but usually remain longer, and are cared for by the parents for a while after they leave the nest.

The Eastern Field Sparrow is a permanent resident in northern, central, and southeast central Louisiana, rare in summer, common in winter; reported north to Lake Providence, Oak Grove in West Carroll Parish, Mer Rouge, Monroe, Bienville Parish, and Belcher; west to Caddo Parish, Mansfield, Natchitoches, Alexandria, and Lecompte; south to West Baton Rouge Parish, Hohen Solms, and East Baton Rouge Parish; and east to Bayou Sara, Bains, Simmesport, Clarks, and Tallulah. It is also a rare winter resident in southeastern and central southern Louisiana, south to New Orleans, Oneida (near Convent), Houma, Terrebonne Bayou, Avery Island, and Vermilion Bay. It breeds in May and June.

Specimens have been seen from Belcher, February 3 and 6, 1908; Natchitoches, January 17, 1908; Mansfield, January 24, 1908; Alexandria, January 9, 1908; Clarks, January 6, 1908; and Lecompte, January 13, 1908; all collected by A. H. Howell; Kisatchie, November 11, 1936, Baton Rouge, January 15, 1937, New Orleans, January 9, 1937, by T. D. Burleigh; Carr's Creek in Jackson Parish, June 5, 1937, by George H. Lowery, Jr.; and Avery Island, February 9, 1895, by George E. Beyer.

Ned Hollister found it common about Mer Rouge, February 11 to 16, and March 16 to 20, 1904; and E. R. Kalmbach saw several individuals, June 14, 1924, south of Tallulah. J. S. Campbell regards it as a common permanent resident in Bienville Parish. K. Geist listed it as breeding at Hohen Solms in 1915 and 1916; Andrew Allison noted it abundant in East Baton Rouge Parish; and both he and H. H. Kopman say that it breeds in West Baton Rouge Parish. C. W. Beckham recorded its breeding at

Bayou Sara in 1887; and Edward Butler remarked its breeding at Bains in 1916. H. H. Kopman saw a single individual near the mouth of Bayou des Glaizes, between August 31 and September 2, 1917; and he met with the species at New Orleans, February 6 and 8, 1918. The writer saw it at Houma, December 22, 1932; and on Terrebonne Bayou near Houma on the same day.

WESTERN FIELD SPARROW

Spizella pusilla arenacea Chadbourne

The Western Field Sparrow is a rare winter visitor, from January 17 to March 30, in northern and southeastern Louisiana; recorded north to Belcher; west to Natchitoches; south to New Orleans; and east to Mandeville.

This race was first recorded from Louisiana by Frank M. Chapman,²⁸⁵ on the basis of a specimen taken during the winter of 1890 to 1891 by C. S. Galbraith at Mandeville, Louisiana. A. H. Howell also placed on record a single specimen from Belcher, February 6, 1908, and another from Natchitoches, January 17, 1908;²⁸⁶ and the writer has examined these three examples. The fourth and only other record for the State is a single bird collected at Mandeville, March 30, 1875, by Gustave Kohn. It is interesting to note that, though the last to be recorded, this was the first specimen to be taken in Louisiana.

HARRIS SPARROW

Zonotrichia querula (Nuttall)

The Harris Sparrow is a casual winter visitor in central Louisiana.

There is but a single record for the State, that of a specimen taken at Urania in La Salle Parish on January 25, 1916, by Stanley C. Arthur.²⁸⁷

²⁸⁵ The Auk, Vol. VIII, No. 3, 1891, p. 318.

²⁸⁶ Proc. Biol. Soc. Wash., Vol. XXI, April 11, 1908, p. 122.

²⁸⁷ Bull. La. Dept. Cons., No. 5, January, 1918, p. 62.

WHITE-CROWNED SPARROW*Zonotrichia leucophrys leucophrys* (Forster)

The White-crowned Sparrow is a rare winter visitor, from October 8 to May 12, in northern, central, and southeastern Louisiana; reported north to Monroe, Bienville, and Foster; west to Shreveport and Natchitoches; south to Terrebonne Bayou and New Orleans; and east to Covington.

The writer has determined specimens from Natchitoches, collected, January 17, 1908, by A. H. Howell; and from Bienville, taken, October 20, 1932, by J. S. Campbell, who reports it as present at Bienville also on October 8 and 10, 1931. George H. Lowery, Jr., noted it near Monroe, April 26, 1931, also on April 27, 1936; and A. H. Howell obtained it on January 17, 1908, at Natchitoches, where two small flocks were seen along the roadside between January 16 and 21, 1909. He observed it also at Foster, five miles east of Shreveport, between January 27 and 31, 1908. H. H. Kopman met with it at Covington, November 25, 1899; at New Orleans, April 27, 1924; and he states that it sometimes occurs there as late as May 12. Andrew Allison reported it at New Orleans, April 30 and May 2, 1897. The writer saw a single individual on Terrebonne Bayou, between Bourg and Houma on January 26, 1932.

GOLDEN-CROWNED SPARROW*Zonotrichia coronata* (Pallas)

The Golden-crowned Sparrow is merely an accidental visitor in Louisiana.

There is only a single record for the State, that of an adult male collected by Ambrose Daigre at Grand Isle on April 20, 1936. This specimen is now in the collection of the museum of the Department of Conservation at New Orleans, and has been examined by the writer.

WHITE-THROATED SPARROW*Zonotrichia albicollis* (Gmelin)

This is one of the larger brown sparrows with black markings or streakings on the back, black and white stripes on the head, a yellow spot in front of the eye, and with a distinctly white throat, whence its name.

The White-throated Sparrow is a well-known bird in the eastern United States, although it does not breed except in the more northern parts of its range. It is fond of all kinds of bushes and thickets, is to be found almost everywhere in the country, and even in the parks and door-yards of towns.

It remains mostly near the ground and may be seen slipping through the thickets, in brush heaps, or on the ground scratching among the leaves. At times it visits the cornfields and areas grown up to weeds. Sometimes it gathers into considerable companies, but usually not into dense flocks. When alarmed it does not fly far, ordinarily to the nearest bush, and while it has a rather strong flight, this is commonly not prolonged, except on migration.

Its ordinary alarm note is a rather metallic 'chip'; but its song is a very clear, musical repetition of notes that in part sound like 'peabody', from which it has received the name 'peabody bird'.

The food of this bird consists of seeds of weeds and of grasses, a very little grain, most of it waste, and some berries, such as those of the poison ivy, smilax, wild cherry, blueberry, dogwood, and blackberry. In its animal food it is notably beneficial, since it consumes a great many injurious insects, such as beetles, grasshoppers, locusts, ants, the boll weevil, and other weevils.

Its nest is rather bulky, placed on the ground, either under a bush or in a pile of brush, either in the open or in woodlands, occasionally a short distance above the ground in a low tree or bush. It is composed of grasses, leaves, rootlets, bark strips, and moss, and lined with hair, fine

grass, and similar materials. The usually four to five eggs are whitish, with spots of various shades of brown and lilac.

Not only on account of its song, but by reason of its beneficial food habits, and particularly on account of its willingness to frequent the vicinity of dwellings, both in the country and in towns, the White-throated Sparrow is one of our most welcome birds.

The White-throated Sparrow is a fairly common, locally common, winter resident, from October 8 to May 30, throughout most of Louisiana; reported north to Lake Providence, Oak Grove in West Carroll Parish, Mer Rouge, Monroe, Ruston, Bienville, Foster, and Belcher; west to Shreveport, Mansfield, and Natchitoches; south to Grand Chenier, Jennings, New Iberia, Avery Island, Avoca Island, and South Pass in the Mississippi River Delta; and east to Harvey Canal No. 2 in La Fourche Parish, Harvey Canal in Jefferson Parish, Marrero, New Orleans, Lake Catherine, Mandeville, Madisonville, Covington, Hackley, Bains, New Roads, Tallulah, and East Carroll Parish.

The writer has determined specimens from Mer Rouge, collected, February 13, 1904, by Ned Hollister; Mansfield, January 23, 1908, by A. H. Howell; Avery Island, January 16, 1894, by George E. Beyer; Marrero, February, 1932, by Winston E. Nolan; Mandeville, December 7, 1877, by Gustave Kohn; also in the State Capitol at Baton Rouge, from Mandeville, February 23, 1933; New Orleans, November 28, 1932, and January 1, 1933; and in the museum of Tulane University, from Saint James, January 1, 1894; Lewisburg, November 8, 1874; and Jefferson Parish, March 12, 1895. A bird sent from the South Pass Lightship off the Mississippi River Delta, struck there on December 23, 1903. Specimens have been taken also by A. H. Howell at Foster, January 30, 1908; Belcher, February 4, 5, and 6, 1908; Clarks, January 6 and 7, 1908; Leconte, January 11 and 14, 1908, and February 11, 1908; Natchitoches, January 17, 18, and 20, 1908; by J. Fairie at Prairie Mer Rouge in 1853; by J. H. Carruth in West Baton Rouge Parish, January 24, 1903; by A. M. Bailey

at Chenier au Tigre, March 10, 1931; and by A. K. Fisher at Madisonville, May 30, 1886.

J. S. Campbell reported its arrival at Bienville, October 10, 1931, and noted it as late as May 15, 1932. H. H. Kopman saw it at Shreveport, April 4, 1929; at Jennings a few in the hardwood bottomland forests, January 30 to 31, 1918; at New Roads, December 15, 1917; at Oneida near Convent, common, December 23, 1893, and January 1, 1894; at Ponchatoula, March 25 to 27, 1918; and at Covington, October 8 and November 30, 1885. George H. Lowery, Jr., gives it as an abundant winter visitor at Baton Rouge, arriving from the north about October 10, and seen, April 26, 1936. Andrew Allison has observed it also at New Orleans, October 27, 1894; and Robert Butler, at Bains, December 10, 1929. A. H. Howell saw one individual at Hackley, between February 20 and 24, 1912; and Ned Hollister found it abundant in the parishes of Morehouse, West Carroll, East Carroll, and Madison, February 11 to March 20, 1904. The writer met with the White-throated Sparrow on the Rainey Wild Life Sanctuary, January 22, 1928; at Avery Island, December 28, 1932; at Grand Chenier, December 31, 1932; common at Avoca Island, January 27, 1932; and along the Harvey Canal in Jefferson Parish, and Harvey Canal No. 2 in La Fourche Parish, on January 26, 1932.

EASTERN FOX SPARROW

Passerella iliaca iliaca (Merrem)

The Eastern Fox Sparrow is a winter resident, from November 1 to April 6, rare in southeastern, but fairly common in northern Louisiana; and reported north to Oak Grove in West Carroll Parish, Monroe, Bienville, and Belcher; west to Foster and Natchitoches; south to New Orleans; and east to Mandeville, West Feliciana Parish, and Bear Lake eight miles northwest of Tallulah.

The writer has seen specimens of this species from Natchitoches, obtained January 21, 1908, by A. H. Howell; in the museum of Tulane University from New Orleans,

November 26, 1891, and from Mandeville, December 23, 1878. It was collected also at Clarks, January 7, 1908; at Foster, January 28 and 30, 1908; and at Belcher, February 6, 1908, by A. H. Howell; and at Baton Rouge on January 27, 1933, by George H. Lowery, Jr. Mr. Lowery records it also from Melville in December, and Carr's Creek, West Feliciana Parish, in January. Ned Hollister noted it in small numbers at Bear Lake, eight miles northwest of Tallulah, February 17 to March 6, 1904; George H. Lowery, Jr., reported it common at Monroe, where he observed it, December 25, 1931; and J. S. Campbell its arrival at Bienville on November 1, 1932. Andrew Allison found several and took one specimen near New Orleans on February 22, 1897; and George E. Beyer saw it at New Orleans on April 6, 1894; but the bird appears to be rare in this region.

LINCOLN SPARROW

Melospiza lincolni lincolni (Audubon)

The Lincoln Sparrow is a very rare winter visitor, from November 30 to April 29, in northern and southwestern Louisiana.

The first published record of this bird from the State is that by A. H. Howell,²⁸⁸ who obtained a single individual at Mansfield in De Soto Parish, January 24, 1908. He collected still another at the same place, April 29, 1907, but this specimen, through some oversight, was not recorded with the other taken a year later. W. L. McAtee also noted a few birds of this species at Cameron in Cameron Parish on November 30, 1910. J. S. Campbell observed one at Bienville on April 6, 1934; two between April 6 and May 31, 1934, and collected one on May 30, 1934, which the writer has examined. H. H. Kopman at Shreveport saw this sparrow on April 22, 23, 28, and 29, 1934. E. L. Moseley recorded one supposed to have been seen early in January, 1928, in West Carroll Parish,²⁸⁹ but he now writes me that he is not certain of this identification.

²⁸⁸ Proc. Biol. Soc. Wash., Vol. XXI, April 11, 1908, p. 122.

²⁸⁹ Wilson Bulletin, Vol. XL, No. 2, June, 1928, p. 116.

EASTERN SWAMP SPARROW

Melospiza georgiana georgiana (Latham)

The Eastern Swamp Sparrow is a common winter resident, from September 26 to May 7, throughout most of Louisiana; reported north to Lake Providence, Oak Grove in West Carroll Parish, Monroe, Bienville, and Foster; west to Foster, Mansfield, Natchitoches, and Black Bayou in northwestern Cameron Parish; south to southwestern Cameron Parish, Jennings, Indian Bayou, New Iberia, Rainey Wild Life Sanctuary, Chenier au Tigre, Marsh Island, Bayou Black west of Houma, Terrebonne Bayou, Houma, and Octave Pass in the Mississippi River Delta; and east to Diamond, Savoie, Phoenix, Carlisle, Westwego, New Orleans, Caernovan, Chef Menteur, Lake Catherine, Rigolets, Slidell, Mandeville, Covington, Bayou Sara, Hackley, Tallulah, and East Carroll Parish.

The writer has identified specimens from Natchitoches, January 18, 1908, taken by A. H. Howell; Point Maronne, February 5, 1916, and Chenier au Tigre, January 2, 1934, A. M. Bailey; New Orleans, February 11, 1896, collected by George K. Cherrie; January 12, 1932, December 6, 1932, and April 12, 1890; Jefferson Parish, March 12, 1895; Indian Bayou, January 8, 1900; Lobdell, January 22, 1903; Rigolets, April 5, 1870; and Westwego, without date. It has been obtained also by A. H. Howell at Le-compte, January 14 and February 11, 1908; Clarks, January 6 and 7, 1908; and at Foster, January 30, 1908; additionally by George K. Cherrie at Chef Menteur, January 21, 23, 24, and 25, 1896.

Since this seems, from the information available, to be about as common as the other race of this species in Louisiana, there are included here all the sight records of the species, notwithstanding that some of these probably belong under the other form. J. S. Campbell says that in Bienville Parish it is an abundant winter resident from October 6 to May 7. Ned Hollister found it numerous in flocks along fences of dry fields at Prairie Mer Rouge, February 11 to 16, 1904; and noted it also in East Carroll Parish, between March

6 and 13, 1904. J. S. Campbell listed it at Bienville, October 20, 1932; and H. H. Kopman at Port Allen, December 14, 1917; Belair, October 21, 1917; Caernovan, November 4, 1917; Savoie, April 14, 1918; Phoenix, October 23, 1917; Carlisle, October 4 and 5, 1917; Chef Menteur, December 23, 1917; Covington, October 7, 1899; and Jennings, January 30 to 31, 1918. H. L. Ballowe noted it at Diamond, October 20, 1902, and April 3, 1902. A. H. Howell considered it common at Hackley about the patches of broom-sedge in dry flats and on the borders of swamps, February 20 to 24, 1912; and at Slidell, October 28 and November 1, 1908. At New Orleans Andrew Allison chronicled its autumn arrival on September 26, 1895; and observed it as late as May 3, 1898. The writer met with this sparrow at several localities along Black Bayou in the northwestern part of Cameron Parish, January 24 to 27, 1928, and near the Orange-Cameron Land Company's club house in the southwestern part of Cameron Parish, January 25, 26, and 27, 1928. He saw it also on Terrebonne Bayou below Houma, December 22, 1932; and along Bayou Black between Houma, and the mouth of Bayou Chene, January 27, 1932. He also found a single individual near the Delta Duck Club on Octave Pass in the Mississippi River Delta, December 19, 1932.

WESTERN SWAMP SPARROW

Melospiza georgiana ericrypta Oberholser, new subspecies

Subspecific characters.—Similar to *Melospiza georgiana georgiana*, from Ohio and the rest of eastern North America, but somewhat smaller; upper parts lighter and brighter, the light edgings also more whitish.

Measurements.—Average of ten males; wing, 61.4 mm.; tail, 57.5; exposed culmen, 10.2; tarsus, 21.3; middle toe without claw, 15.3.

Type.—Adult male, No. 283543, U. S. Nat. Mus., Biological Survey collection; Fort McMurray, Alberta, May 6, 1921; J. A. Loring, original No. 970.

Geographic distribution.—Breeds from Alberta and Manitoba south to North Dakota; and winters south to Florida, Louisiana, and Tamaulipas, Mexico.

This new race is readily recognizable by the lighter and brighter color of the upper parts. All the names that have been applied to the species refer to the eastern race, so that the western bird has been apparently hitherto without a designation.

The Western Swamp Sparrow is doubtless a common winter resident in Louisiana, from October 12, to April 25, occurring in most if not all of the State. It has been reported north to Mer Rouge and Belcher; and south to Buras and Chef Menteur.

The writer has examined specimens of this sparrow from Belcher, February 4, 1908, collected by A. H. Howell; Mer Rouge, February 12, 1904, taken by Ned Hollister; Baton Rouge, April 25, 1937, by S. Ward, also January 15, 1937, by T. D. Burleigh; Chenier au Tigre, December 10 and 12, 1925, and State Wild Life Refuge, November 25, 1916, by A. M. Bailey; Marrero, October 12, 1932, Winston E. Nolan; Mandeville, April 16, 1889, C. S. Galbraith; Belair, April 5, 1904, Ned Hollister; Plaquemines Parish, February 4, 1863; Marrero, December 12, 1932; New Orleans, December 2 and 12, 1882, by R. W. Shufeldt; April 23, 1936, and March 19, 1936, by T. D. Burleigh; February 25, 1917, by A. M. Bailey; March 21, 1891, by E. J. Schaefer; and February 11, 14, and 15, 1896, by G. K. Cherrie; Buras, February 1, 1896, by G. K. Cherrie; Chef Menteur, January 21, 22, 23, 24, and 25, 1896, by the same collector; and from Louisiana without specific locality, February 1, 1932, and November 22, year unknown.

EASTERN SONG SPARROW

Melospiza melodia melodia (Wilson)

The Eastern Song Sparrow is a winter visitor, from October 6 to February, in northern, central, and southeastern Louisiana.

The following specimens are referred to this race not because they represent the typical *Melospiza melodia melodia*, but because they are not *Melospiza melodia beata*, and in the present unsatisfactory condition of the eastern races of the Song Sparrow they cannot be certainly referred to any other subspecies. These specimens are from Clarks, collected, January 7, 1908; two at Mansfield, January 24, 1908; and Natchitoches, January 17 and 18, 1908; also by A. H. Howell; Kisatchie, November 11, 1936, T. D. Burleigh; New Orleans, December 6, 1937, T. D. Burleigh; Alexandria, December —, 1932, in the collection of the Louisiana Department of Agriculture at Baton Rouge; and three specimens in the museum of Tulane University, taken at Spanish Fort near New Orleans, October 6 and 21, 1888, respectively, and another with no data other than "Louisiana, obtained in February".

MISSISSIPPI SONG SPARROW

Melospiza melodia beata Bangs

The Mississippi Song Sparrow is a winter resident, from October 10 to April 30, in most parts of Louisiana, fairly common in the northern, and rare in the southern part of the State. It has been reported north to Lake Providence, Oak Grove in West Carroll Parish, Mer Rouge, Monroe, Ruston, Bienville Parish, and Belcher; west to Shreveport, Mansfield, Natchitoches, Alexandria, and Jennings; south to Grand Chenier, Avery Island, Rainey Wild Life Sanctuary, New Iberia, Baldwin, Bayou Black near Houma, Houma, Little Caillou Bayou, Boudreaux Lake, and Main Pass in the Mississippi River Delta; and east to Belair, New Orleans, Mandeville, Madisonville, Hackley, New Roads, and Tallulah. It is also at least a casual summer resident in northeastern Louisiana.

Specimens of this Song Sparrow have been identified from Belcher, February 3, 1908; and Natchitoches, January 18, 1908, collected by A. H. Howell; Monroe, December 24, 1937, taken by George H. Lowery, Jr.; New Orleans, December 18, 1937, by T. D. Burleigh, and Alex-

andria, taken in December, 1932, by Ambrose Daigre. On the assumption that the prevailing winter Song Sparrow of Louisiana is the Mississippi Song Sparrow, *Melospiza melodia beata*, all the sight records for the State appear under this race.

A. H. Howell obtained one individual and saw several more in a grassy field near Clarks, January 7, 1908; noted several at Foster five miles east of Shreveport, January 27 to 31, 1908; and observed the species also at Hackley, February 20 to 24, 1912. H. H. Kopman reported it from Shreveport, April 19, 1929; from Jennings, January 30 to 31, 1918; from New Roads, December 15, 1917; also from New Orleans on April 30, 1915. Ned Hollister found it fairly common about Mer Rouge, February 11 to 16, 1904. J. S. Campbell regards it as a fairly common winter resident in Bienville Parish from October 10 to late March. The writer has observed Song Sparrows presumably of this race at Grand Chenier, December 31, 1932; at Avery Island, December 28, 1932; and on Bayou Black between Houma and the mouth of Bayou Chene, January 27, 1932; on Bayou Des Allemands near Mud Lake, December 24, 1932; on Little Caillou Bayou between Bush Canal and Terrebonne Bayou, December 24, 1932; and at Boudreaux Lake in Terrebonne Parish on the same day; at Houma, December 22, 1932; along Harvey Canal No. 2 in La Fourche Parish, January 26, 1932; and along Main Pass in the Mississippi River Delta, December 19, 1932.

The only summer record of the Mississippi Song Sparrow for Louisiana is a bird seen by E. R. Kalmbach, June 14, 1924, south of Tallulah.

DAKOTA SONG SPARROW

Melospiza melodia juddi Bishop

The Dakota Song Sparrow is a rare, perhaps but casual winter visitor in Louisiana. There are but two records for the State, one of an adult female taken by Arthur H. Howell at Natchitoches on January 18, 1908, the other of

a male collected by T. D. Burleigh at Lake Charles on January 11, 1938. These specimens are now in the Biological Survey collection in the United States National Museum.

LAPLAND LONGSPUR

Calcarius lapponicus lapponicus (Linnaeus)

The Lapland Longspur is a casual winter visitor in northern Louisiana.

The first records for the State are those by George H. Lowery, Jr.²⁹⁰ He observed this longspur only in the month of December. It was seen first, December 19, 1932 on the flats bordering Lake Beulah in the town of Monroe. On December 21, two additional individuals were discovered in another locality at some distance from the town. On December 22, he found a flock of 2000 of these birds in the cotton fields along the Ouachita River south of Monroe, and collected several specimens. One of these, an adult male, the writer has examined and finds it to be referable to the eastern race of this species. Mr. Lowery saw a small flock of about 35 in the same locality on December 23, 1932; another flock in December, 1933; and 27 birds on December 27, 1934.

A female example now in the museum of the Department of Conservation at New Orleans was collected by Ambrose Daigre on the shore of Lake Pontchartrain at New Orleans, December 20, 1936.

EASTERN SNOW BUNTING

Plectrophenax nivalis nivalis (Linnaeus)

The Eastern Snow Bunting is an accidental winter visitor in southeastern Louisiana.

There is but a single record for the State; that of a specimen taken by George E. Beyer at Covington on an unknown date, which specimen is now in the Louisiana State Museum at New Orleans.

²⁹⁰ The Auk, Vol. L, No. 2, April 10, 1933, p. 226.

HYPOTHETICAL LOUISIANA BIRDS

Under this heading there are included such birds as have been reported from Louisiana, but which do not seem to be sufficiently well authenticated to be placed in the State list. Some of these have been mistakenly recorded from the State, but may at some future time be actually found within its borders; the others are forms which no longer are recognized as distinct, are hybrids, or subspecies the ranges of which are now found not to include Louisiana.

AMERICAN BRANT

Branta bernicla hrota (Müller)

The American Brant is accredited to Louisiana by several authors, but the writer fails to find an occurrence definite enough to entitle it to a place in the Louisiana list. The small races of Canada Geese and the other geese are so commonly called 'brant' in the Mississippi valley that no dependence can be placed on any records other than those of actual specimens taken.

GREATER SNOW GOOSE

Chen hyperborea atlantica Kennard

The Greater Snow Goose has been reported from Louisiana, but there are no specimens available, and the statements are probably mistakes for the Lesser Snow Goose.

BLACK-BELLIED TREEDUCK

Dendrocygna autumnalis autumnalis (Linnaeus)

The Black-bellied Treeduck, although several times accredited to Louisiana, has apparently no definite record.

SOUTHERN BLUE-WINGED TEAL*Querquedula discors albinucha* Kennard

The Southern Blue-winged Teal, described by Frederic H. Kennard,²⁹¹ was apparently based on individual variation in specimens of the Blue-winged Teal. If it ever should prove to be a recognizable race, the breeding Blue-winged Teals of Louisiana would, of course, belong here. It originally came from Grand Chenier in Cameron Parish, Louisiana.

EASTERN GOSHAWK*Astur atricapillus atricapillus* (Wilson)

The Eastern Goshawk is reported by John James Audubon²⁹² as seen by him in Louisiana, but he gives neither date nor definite locality. There is apparently no other record for the State.

RING-NECKED PHEASANT*Phasianus colchicus torquatus* Gmelin

Attempts to introduce this species into Louisiana have apparently so far been unsuccessful, as the bird has not yet been fully established in any locality. It is, therefore, not to be considered as a part of the State fauna. The birds have been introduced on Marsh Island, also in La Salle Parish, and on the State Forest, but so far as the writer is aware there are no breeding birds in the wild state now left at any of these localities.

CARIBBEAN CLAPPER RAIL*Rallus longirostris caribaeus* Ridgway

All specimens of the Caribbean Clapper Rail identified from Louisiana are to be referred to the Louisiana Clapper Rail, which is the common breeding bird of the State. The Caribbean Clapper Rail does not occur anywhere in the United States.

²⁹¹ The Auk, Vol. XXXVI, No. 4, October 31, 1919, p. 459.

²⁹² Ornith. Biog., Vol. II, 1835, p. 241.

BRIDLED TERN*Sterna anaethetus melanopectera* Swainson

Although the Bridled Tern has recently been recorded from Louisiana,²⁹³ it seems better not to place this on the regular list until a specimen shall have been obtained in the State.

MAYNARD CUCKOO*Coccyzus minor maynardi* Ridgway

The Maynard Cuckoo is reported to have occurred in southern Louisiana, but the writer has been able to discover no specific record or specimen.

SOUTHERN SCREECH OWL*Otus asio asio* (Linnaeus)

The range of the Southern Screech Owl has been said to include the State of Louisiana, but as already explained in the previous pages of the main list of the birds of Louisiana, all Louisiana Screech Owls are to be referred to the Florida subspecies, *Otus asio floridanus*.

GILDED FLICKER*Colaptes chrysoides* (Malherbe)

The Gilded Flicker, a Louisiana specimen of which has been recorded,²⁹⁴ the writer has been unable to find in the Kohn collection in the museum of Tulane University. This specimen probably, however, is a hybrid between the Red-shafted Flicker and the Yellow-shafted Flicker. It was taken on the Deer Range Plantation in Plaquemines Parish.

LITTLE FLYCATCHER*Empidonax traillii brewsteri* Oberholser

The Little Flycatcher, although accredited to Louisiana, is not certainly of occurrence in the State. The difficulty of identifying this small flycatcher makes it impossible to

²⁹³ La. Cons. Review, Vol. III, No. 3, July, 1933, p. 32.

²⁹⁴ Bull. La. Dept. Cons., No. 10, December, 1921, p. 163.

be certain of the records without specimens for examination, which in this case the writer has been unable to obtain. This bird might occur, particularly in the northwestern part of the State, as an occasional transient.

PRAIRIE HORNED LARK

Otocoris alpestris praticola Henshaw

Although the Prairie Horned Lark has several times been said to visit Louisiana, all the records that it has been possible to authenticate by specimens prove to belong to other races. There is, however, reason to believe that it may appear occasionally in winter, at least in northern Louisiana.

PLUMBEOUS CHICKADEE

Penthestes carolinensis agilis (Sennett)

All the Louisiana records of this subspecies are found not to belong to this race, but to the Louisiana Chickadee, *Penthestes guilloti carolinensis*, described on a preceding page of the present bulletin.

WHITE-BREASTED NUTHATCH

Sitta carolinensis cookei Oberholser²⁹⁵

All the Louisiana birds of this species prove to belong to the Florida race, *Sitta carolinensis carolinensis*.²⁹⁶

WESTERN ROBIN

Turdus migratorius propinquus Ridgway

The Western Robin has been recorded by T. Gilbert Pearson²⁹⁷ on the basis of two birds seen by Charles W. Townsend on the Rainey Wild Life Sanctuary near Abbeville on December 5, 1925. Doctor Townsend, however, so he personally informed the writer, did not feel sure enough of his sight identification to place this robin in the Louisiana list.

²⁹⁵ *Sitta carolinensis carolinensis* of the 1931 A. O. U. Check-List.

²⁹⁶ *Sitta carolinensis atkinsi* of the 1931 A. O. U. Check-List.

²⁹⁷ Circ. Nat. Asso. Aud. Soc., No. 11, February 15, 1928, p. 8.

BREWSTER WARBLER*Vermivora leucobronchialis* (Brewster)

A single specimen of this bird was taken in the spring of 1891 at Mandeville, and recorded by Frank M. Chapman.²⁹⁸ The bird, however, is now considered a hybrid between the Blue-winged Warbler, *Vermivora pinus*, and the Golden-winged Warbler, *Vermivora chrysoptera*.

LAWRENCE WARBLER*Vermivora lawrencei* (Herrick)

The interesting hybrid called the Lawrence Warbler is evidently of only casual or accidental occurrence in Louisiana. A single female now in the Biological Survey collection of the United States National Museum was taken by Thomas D. Burleigh at New Orleans on September 13, 1935.

NORTHERN PARULA WARBLER*Compsothlypis americana pusilla* (Wilson)

The Northern Parula Warbler has been reported several times from Louisiana, but the writer has been able to examine no specimens of this race. It undoubtedly occurs in the State, at least occasionally during migration.

NORTHERN WATERTHRUSH*Seiurus noveboracensis noveboracensis* (Gmelin)

The eastern form of this waterthrush, although recorded from Louisiana, has apparently no satisfactory record for the State. It is, however, possibly a rare transient, since it occurs in neighboring states.

RIDGWAY GRACKLE*Quiscalus quiscula ridgwayi* Oberholser

This bird, which now must be regarded as a hybrid between the Bronzed Grackle, *Quiscalus aeneus*, and either the eastern Purple Grackle, *Quiscalus quiscula stonei* Chap-

²⁹⁸ The Auk, Vol. IX, No. 3, July, 1891, p. 318.

man,²⁹⁹ or the Florida Grackle, *Quiscalus quiscula quiscula*, is liable to be found in southern Louisiana wherever the ranges of these two species overlap.

It has been recorded north to Olive Branch, Lindsay, Moreauville, Meeker, and Boyce; west to Boyce, Bunkie, Melville, and Livonia; south to 15 miles south of Livonia, New Orleans, and at least occasionally to Deer Range Plantation, Avery Island, and Morgan City; and east to New Orleans, Baton Rouge, and Olive Branch. Specimens from the southernmost of these localities are probably not to be considered breeding birds.

Specimens have been examined by the writer from West Baton Rouge Parish, where taken on May 4, 1903, by A. Allison; Deer Range Plantation in Plaquemines Parish, February 10, 1883, G. Kohn; and New Orleans, April 15, 1888, also by G. Kohn, and December 12, 1936, by T. D. Burleigh. F. M. Chapman has recorded³⁰⁰ this bird from the following localities: Avery Island; Morgan City; Opelousas; six miles south of Olive Branch; Boyce, May 20-22, 1935; Moreauville, May 7, 1935; Woodside, May 15, 1935; 15 miles southeast of Livonia, March 5, April 15 and 18, and May 20 and 21, 1903; two miles south of Livonia, May 16, 1936; False River, between New Roads and Port Allen, May 6, 1935; Baton Rouge, May 24, 1935; and four miles north of Lindsay, May 4, 1935.

MACGILLIVRAY SEASIDE SPARROW

Thryospiza maritima macgillivraii (Audubon)³⁰¹

The MacGillivray Seaside Sparrow has been erroneously accredited to Louisiana by misidentification for the Louisiana Seaside Sparrow, *Thryospiza maritima fisheri*, or the Howell Seaside Sparrow, *Thryospiza maritima howelli*.

²⁹⁹ The Auk, Vol. LII, No. 1, January 8, 1935, p. 25 ("Lakehurst, N. J.").

³⁰⁰ The Auk, Vol. LIII, No. 4, October 8, 1936, pp. 408-410.

³⁰¹ *Ammospiza maritima macgillivraii* of the 1931 A. O. U. Check-List.

BIBLIOGRAPHY

EXPLANATION

The subjoined bibliography is intended to contain references to all the important publications concerning the birds of Louisiana, and to most of the others. While much care has been exercised in its preparation, it is probably not complete, since the articles on the birds of this State are widely scattered, and in not a few instances are difficult to find. No attempt has been made to list all the editions of books that include no additional records in the subsequent issues, nor are there cited here such publications as state lists in which the range of various birds is given as including Louisiana, unless such works present unpublished information from this State. This bibliography comprises 477 titles, in the gathering of which the writer has been much aided by the files of the United States Biological Survey.

In order better to show the history of the development of the literature concerning the birds of Louisiana, this bibliography has been arranged chronologically, although alphabetically by authors under each year. For further convenience of reference, however, all these titles will be found in the Index at the end of the present bulletin, listed under the names of the authors.

LIST OF TITLES

1758.—DU PRATZ, LE PAGE. *Histoire de la Louisiane*, Vols. I-III, 1758 (Oiseaux, Vol. II, pp. 109-150).

Contains a detailed list of species of birds occurring in Louisiana.

- 1760.—BRISSON, MATHURIN JACQUES. *Ornithologia*, Vols. I-VI, 1760.

Contains early descriptions of several Louisiana birds, such as the Rose-breasted Grosbeak.

- 1765.—D'AUBENTON, EDMÉ LOUIS. *Planches Enluminées d'Histoire Naturelle*, 1765, pls. I-MVIII.

A few birds from Louisiana are figured.

- 1766-1768.—LINNAEUS, CAROLUS. *Systema Naturae*, Editio XII, Vols. I-III, 1766-1768.

Contains the original technical description of our Rose-breasted Grosbeak and Loggerhead Shrike, with other references to Louisiana birds.

- 1768.—BOSSU, JEAN BERNARD. *Nouveaux Voyages aux Indes Occidentales*, 1768; Vol. I, pp. i-xx, 1-244, pl. I; Vol. II, pp. 1-262, pls. I-II.

Mentions several species of birds noted near New Orleans, Louisiana.

- 1770-1783.—BUFFON, GEORG LOUIS LECLERC. *Histoire Naturelle, Oiseaux*, Vols. I-IX, 1770-1783.

Includes a description of the Carolina Wren from Louisiana.

- 1788-1793.—GMELIN, JOHANN FRIEDRICH, *Caroli a Linné Systema Naturae*, Vols. I-III, 1788-1793.

First technically describes the Louisiana Parakeet, and has some other mention of Louisiana birds.

- 1790.—LATHAM, JOHN. *Index Ornithologicus*, Vols. I-II, 1790.

Contains the original technical description of our Carolina Wren, with other references to birds from Louisiana.

- 1808-1814.—WILSON, ALEXANDER. *American Ornithology; or the Natural History of the Birds of the United States*, Vols. I-IX, 1808-1814.

Contains references to birds from Louisiana.

- 1817.—BRACKENRIDGE, HENRY MARIE. *Views of Louisiana; Containing Geographical, Statistical, and Historical Notices of That Vast and Important Portion of America*, 1817, pp. 1-323 (Birds, pp. 118-119).

Mentions the abundance of wild fowl and "a bird called prairie hen."

- 1824.—AUDUBON, JOHN JAMES [LA FOREST]. *Facts and Observations Connected with the Permanent Residence of Swallows in the United States*. *Annals of the Lyceum of Natural History of New York*, Vol. I, 1824, pp. 166-168.

Includes some interesting migration data of the swallows, with mention of their occurrence in Louisiana.

- 1827-1838.—AUDUBON, JOHN JAMES [LA FOREST]. *Birds of America*, folio, Vols. I-IV, 1827-1838, pls. I-CCCCXXXV.

Figures of several birds obtained in Louisiana are included in this work.

- 1831-1839.—AUDUBON, JOHN JAMES [LA FOREST]. *Ornithological Biography, or an Account of the Habits of the Birds of the United States of America*; Vol. I, 1831, pp. i-xxiv, 1-512, 1-16; Vol. II, 1834, pp. i-xxxii, 1-588; Vol. III, 1835, pp. i-xvi, 1-638; Vol. IV, 1838, pp. i-xxviii, 1-618; Vol. V, 1839, pp. i-xxxix, 1-664.

Contains many important references to birds in Louisiana, including descriptions of new species from this State.

- 1832-1834.—NUTTALL, THOMAS. *A Manual of the Ornithology of the United States and of Canada; The Land Birds*, 1832, pp. i-viii, 1-683; *The Water Birds*, 1834, pp. i-viii, 1-627.

Contains references to birds from Louisiana.

- 1840-1844.—AUDUBON, JOHN JAMES [LA FOREST]. *The Birds of America, from Drawings Made in the Uni-*

ted States and Their Territories, Vols. I-VII, 1840-1844.

Includes many references to birds in Louisiana, mostly the same as those in the 'Ornithological Biography'.

- 1850.—[GAMBEL, WILLIAM.] [*Anas Rafflesii in Louisiana.*] Proceedings of the Academy of Natural Sciences of Philadelphia, Vol. IV, August 21, 1849 [1850], p. 195.

Records a specimen of *Anas rafflesii* (Cinnamon Teal) from Louisiana.

- 1850.—[WILSON, THOMAS BELLERLY.] *Donations to Museum: August 21, 1849.* Proceeding of the Academy of Natural Sciences of Philadelphia, Vol. IV, August 21, 1849 [1850], p. 205.

Mention is made of a specimen of *Anas rafflesii* (*Querquedula cyanoptera*) from Opelousas, Louisiana.

- 1868.—MOORE, N. B. [*A Pebble in the Stomach of a Common Nighthawk.*] Proceedings of the Boston Society of Natural History, Vol. XII, October 7, 1868, p. 127.

A note on the finding of a pebble of considerable size in the stomach of a nighthawk shot in Iberville Parish, Louisiana.

- 1870.—[ANONYMOUS.] *A Rare Duck.* American Naturalist, Vol. IV, No. 2, April, 1870, p. 126.

An account of a specimen of *Dendrocygna fulva helva* killed in New Orleans, Louisiana.

- 1872.—COUES, ELLIOTT. *Key to North American Birds*, October, 1872, pp. [1-8,] 1-361, pls. I-VI.

Many references are made to birds from Louisiana.

- 1874.—BAIRD, SPENCER FULLERTON; BREWER, THOMAS MAYO; AND RIDGWAY, ROBERT. *A History of North American Birds, Land Birds*, Vol. I, pp. i-xxviii, 1-

596, i-vi, pls. I-XXVI; Vol. II, pp. [i-vi,] 1-590, i-vi, pls. XXVII-LVI; Vol. III, pp. [i-vi,] 1-560, i-xxviii, pls. LVII-LXIV; March, 1874.

Contains many references to birds in Louisiana.

1874.—COUES, ELLIOTT. *Birds of the Northwest*, 1874, pp. i-xi, 1-791.

Includes several Louisiana records.

1874-1898.—SHARPE, RICHARD BOWDLER, ET AL. *Catalogue of the Birds in the British Museum*, Vols. I-XXVII, 1874-1898.

Records of specimens from Louisiana are to be found in these volumes.

1875.—RIDGWAY, ROBERT. *Studies of the American Falconidae; Monograph of the Polybori*. Bulletin of the Geological and Geographical Surveys of the Territories (Hayden), Vol. I, No. 6, 1875, pp. 451-473.

A specimen of *Polyborus cheriway audubonii* is recorded from Calcasieu Pass, Louisiana.

1877.—KUMLIEN, LUDOVIC. *Ornithological Notes from Texas*. Field and Forest, Vol. II, No. 8, February, 1877, pp. 128-132.

Records *Corvus ossifragus*, *Quiscalus*, *Larus argentatus smithsonianus*, *Larus delawarensis*, and *Larus philadelphia* at Bayou Boeuf and Atchafalaya Bay, Louisiana.

1878.—HENSHAW, HENRY WETHERBEE. *Report on the Ornithology of Portions of Nevada and California*. Appendix I, Appendix NN, Annual Report of the Chief of Engineers for 1877, in the Annual Report of the Secretary of War for 1877, Vol. II, Part 2, 1878, pp. 1303-1322.

Mention is made of a specimen of *Dendrocygna bicolor helva* from New Orleans, Louisiana (p. 1313).

1880.—ALLEN, JOEL ASAPH. *Destruction of Birds by Light-Houses*. Bulletin of the Nuttall Ornithological Club, Vol. V, No. 2, April, 1880, pp. 131-138.

Mentions a few species of birds killed at West Rigolets Lighthouse, Louisiana.

- 1880.—BICKNELL, EUGENE PINTARD. *Dendroica palmarum palmarum in New York*. Bulletin of the Nuttall Ornithological Club, Vol. V, No. 2, April, 1880, p. 182.

Mentions specimens of *Dendroica palmarum hypochrysea* collected on the banks of the Mississippi River in Louisiana.

- 1881.—FRAZAR, MARTIN ABBOTT. *Destruction of Birds by a Storm while Migrating*. Bulletin of the Nuttall Ornithological Club, Vol. VI, No. 4, October, 1881, pp. 250-252.

Mentions the destruction of a number of species of birds by a storm about 30 miles south of the mouth of the Mississippi River.

- 1881.—LANGDON, FRANK WARREN. *Field Notes on Louisiana Birds*. Journal of the Cincinnati Society of Natural History, Vol. IV, No. 2, July, 1881, pp. 145-155.

A list of 83 species of birds observed in West Baton Rouge Parish, Louisiana.

- 1882.—BECKHAM, CHARLES WICKLIFFE. *Short Notes on Birds of Bayou Sara, Louisiana*. Bulletin of the Nuttall Ornithological Club, Vol. VII, No. 3, July, 1882, pp. 159-165.

A list of 86 species of birds noted at Bayou Sara, Louisiana.

- 1883.—KILLBIRD, KIT. *Our Goat-suckers*. American Field, Vol. XX, No. 7, August 18, 1883, p. 153.

An account of the habits of these birds in Louisiana.

- 1884.—BAIRD, SPENCER FULLERTON; BREWER, THOMAS MAYO; AND RIDGWAY, ROBERT. *The Water Birds of North America*, Vol. I, June, 1884, pp. i-xi, 1-537; Vol. II, August, 1884, pp. [i-vi,] 1-552.

Contains many references to birds in Louisiana.

- 1884.—BYRNE. *Colonel Brackett on the Cranes*. American Field, Vol. XXI, No. 25, June 21, 1884, pp. 592-593.

An account of the habits of the Sandhill Crane, the Whooping Crane, the Great Blue Heron, and the bitterns, as noted in Louisiana.

- 1885.—ALEXANDER, G. D. *The Rain Crow and Log Cock*. American Field, Vol. XXIV, No. 11, September 12, 1885, pp. 246-248.

An account of the habits of these birds in Louisiana.

- 1885.—KOHN, JOSEPH GUSTAVE. *Harelda glacialis at New Orleans*. American Naturalist, Vol. XIX, No. 9, September, 1885, p. 896.

Mentions a specimen of *Clangula hyemalis* shot on Lake Catherine, Louisiana.

- 1885.—WURZLOW, E. C. *Sketches from Terrebonne Parish, Louisiana*. Ornithologist and Oologist, Vol. X, No. 12, December, 1885, pp. 190-191.

Some notes on several species of birds from Terrebonne Parish, Louisiana.

- 1886.—NORRIS, JOSEPH PARKER. *Nesting of the Mississippi Kite*. The Ornithologist and Oologist, Vol. XI, No. 9, September, 1886, p. 142.

Notes on the nesting of the Mississippi Kite in West Carroll Parish, Louisiana.

- 1887.—BECKHAM, CHARLES WICKLIFFE. *Additions to the Avifauna of Bayou Sara, Louisiana*. The Auk, Vol. IV, No. 4, October, 1887, pp. 299-306.

A list of 27 species of birds observed at Bayou Sara, Louisiana.

- 1887.—COLBURN, WILLIAM WALLACE. *Names of a Woodpecker*. Forest and Stream, Vol. XXVIII, No. 12, April 14, 1887, p. 248.

The vernacular name of *Colaptes auratus* is given as Pique-bois-jaune in Louisiana.

- 1887.—LAWRENCE, GEORGE NEWBOLD. *The Rediscovery of Bachman's Warbler, Helminthophila bachmani (Aud.) in the United States.* The Auk, Vol. IV, No. 4, January, 1887, pp. 35-37.

A short account of specimens of the Bachman Warbler and Swainson Warbler taken by C. S. Galbraith in Louisiana.

- 1887.—LAWRENCE, GEORGE NEWBOLD. *Additional Specimens of Bachman's and Swainson's Warblers Obtained by Mr. Chas. S. Galbraith, in the Spring of 1887.* The Auk, Vol. IV, No. 3, July, 1887, pp. 262-263.

An account of additional specimens of these species taken in Louisiana.

- 1888.—ALLEN, JOEL ASAPH. *Notes on Louisiana Birds.* The Auk, Vol. V, No. 3, July, 1888, pp. 324-325.

A short account of some interesting species of birds taken at Mandeville, Louisiana, including a pair of Red Crossbills.

- 1888.—COOKE, WELLS WOODBRIDGE. *Report on Bird Migration in the Mississippi Valley in the Years 1884 and 1885.* Bulletin Division of Economic Ornithology and Mammalogy, United States Department of Agriculture, No. 2, November 24, 1888, pp. 1-313.

Contains records of several species of birds from Louisiana.

- 1888.—FISHER, ALBERT KENRICK. *Rallus longirostris crepitans Breeding on the Coast of Louisiana.* The Auk, Vol. V, No. 1, January, 1888, p. 108.

Mentions securing an adult and two young of what is really the Louisiana Clapper Rail at the entrance to Barataria Bay, Louisiana.

- 1888.—FISHER, ALBERT KENRICK. *Megascops asio floridanus in Louisiana.* The Auk, Vol. 5, No. 1, January, 1888, p. 111.

Mentions a specimen of this screech owl taken near New Orleans, Louisiana.

- 1888.—FISHER, ALBERT KENRICK. *Quiscalus quiscula aglaeus* in Louisiana. *The Auk*, Vol. V, No. 1, January, 1888, p. 113.

Mentions specimens of the Florida Grackle taken near New Orleans, Louisiana.

- 1888.—GALBRAITH, CHARLES S. *Bachman's Warbler (Helminthophila bachmani)* in Louisiana. *The Auk*, Vol. V, No. 3, July, 1888, p. 323.

Mentions specimens of *Vermivora bachmani* and *Limnithlypis swainsonii* from Louisiana.

- 1889.—BARROWS, WALTER BRADFORD. *The English Sparrow (Passer domesticus)* in North America, especially in Its Relations to Agriculture. Bulletin Division of Economic Ornithology and Mammalogy, United States Department of Agriculture, No. 1, June 24, 1889, pp. 1-405, pls. [I-II.]

Includes a number of records of this species from Louisiana.

- 1889.—DAVIE, OLIVER. *Nests and Eggs of North American Birds, Third Edition*, 1889, pp. 1-455.

Contains many Louisiana records.

- 1889.—KOHN, JOSEPH GUSTAVE. *Saxicola oenanthe* in Louisiana. *The Auk*, Vol. VI, No. 1, January, 1889, p. 76.

Mentions a mounted male specimen in winter plumage from Louisiana.

- 1889.—KOHN, JOSEPH GUSTAVE. *Brewer's Blackbird near New Orleans*. *The Auk*, Vol. VI, No. 2, April, 1889, p. 190.

Mentions a specimen of this species from near New Orleans, Louisiana.

- 1890.—DWIGHT, JONATHAN, JR. *The Horned Larks of North America*. *The Auk*, Vol. VII, No. 2, April, 1890, pp. 138-158.

Mentions a specimen of *Otocoris alpestris alpestris* from Louisiana.

- 1891.—CHAPMAN, FRANK MICHLER. *On Two Birds New to Louisiana*. The Auk, Vol. VIII, No. 3, July, 1891, p. 318.

An account of *Vermivora leucobronchialis* and *Spizella pusilla arenacea* from Louisiana.

- 1891.—HASBROUCK, EDWIN MARBLE. *The Present Status of the Ivory-billed Woodpecker (Campephilus principalis)*. The Auk, Vol. VIII, No. 2, April, 1891, pp. 174-186.

Reference is made to the former and present distribution of this species in Louisiana.

- 1892.—ALLEN, JOEL ASAPH. *The North American Species of the Genus Colaptes, Considered with Special Reference to the Relationships of C. auratus and C. cafer*. Bulletin of the American Museum of Natural History, Vol. IV, Article II, May 8, 1892, pp. 21-44, pl. II.

A number of Louisiana specimens are mentioned in this paper.

- 1892.—CHAPMAN, FRANK MICHLER. *A Preliminary Study of the Grackles of the Subgenus Quiscalus*. Bulletin of the American Museum of Natural History, Vol. IV, Article I, February 25, 1892, pp. 1-20, pl. I.

Includes record of specimens of *Quiscalus quiscula ridgwayi* and of *Quiscalus quiscula quiscula* (= *aglaeus*) from Louisiana.

- 1892.—COOMBS, FRANK E. *Notes on a Few Louisiana Birds*. The Auk, Vol. IX, No. 2, April, 1892, pp. 204-206.

A list of 25 species of birds noted in Saint Mary Parish, Louisiana.

- 1893.—BALLOWE, H. L. *The Carolina Wren*. The Oologist, Vol. X, No. 8, August, 1893, p. 236.

Mentions an early date for a set of eggs of the Carolina Wren in Louisiana.

- 1893.—BENDIRE, CHARLES EMIL. *Description of a New Prairie Hen*. Forest and Stream, Vol. XL, No. 20, May 18, 1893, p. 425.

The original description of *Tympanuchus attwateri*, including its occurrence in Louisiana.

- 1893.—BENDIRE, CHARLES EMIL. *An Attractive Addition to the Avifauna of the United States—Icterus gularis yucatanensis von Berlepsch*. The Auk, Vol. X, No. 4, October, 1893, pp. 366-367.

Mentions a specimen of this species taken at Avery Island, Louisiana.

- 1893.—FISHER, ALBERT KENRICK. *The Hawks and Owls of the United States in Their Relation to Agriculture*. Bulletin Division of Economic Ornithology and Mammalogy, United States Department of Agriculture, No. 3, 1893 [before April], pp. 1-210, pls. I-XXVI.

Includes a few Louisiana records.

- 1893.—HASBROUCK, EDWIN MARBLE. *The Geographical Distribution of the Genus Megascops in North America*. The Auk, Vol. X, No. 3, July, 1893, pp. 250-264.

Contains reference to specimens of *Otus asio floridanus* from Louisiana.

- 1894.—KOHN, JOSEPH GUSTAVE. *Missouri Titlark in Louisiana*. The Auk, Vol. XI, No. 2, April, 1894, p. 181.

Mentions specimens of *Anthus spragueii* taken at Avery Island, Louisiana.

- 1895.—BALLOWE, H. L. *The Mockingbird*. The Oologist, Vol. XII, No. 11, November, 1895, pp. 163-164.

An account of the habits of this species in Louisiana.

- 1895.—BENDIRE, CHARLES EMIL. *The Cowbirds*. Report of the United States National Museum for 1893 [September 6, 1895], pp. 589-624.

Contains a Louisiana breeding record of the Cowbird.

- 1895.—BLAKEMORE, ALLEN BRUCE. *The Hooded Warbler, Sylvania mitrata*. The Oologist, Vol. XII, No. 6, June, 1895, pp. 119-121.

An account of personal observations of this species in Louisiana.

- 1895.—CHAPMAN, FRANK MICHLER. *Handbook of Birds of Eastern North America*, February 22, 1895, pp. i-xiv, 1-421, pls. [I-XX.]

Contains many references to the distribution of birds in Louisiana.

- 1897.—ALLISON, ANDREW. *Late Spring Migrants*. The Osprey, Vol. I, Nos. 11-12, July-August, 1897, p. 149.

Some notes on late migration at New Orleans, Louisiana.

- 1897.—BALLOWE, H. L. *Rallidae of Southern Louisiana*. The Oologist, Vol. XIV, No. 10, October, 1897, pp. 90-92.

A short description of the nesting habits of the common rails and the Purple Gallinule.

- 1897.—BETA. *Three Birds of a Louisiana Marsh*. The Oologist, Vol. XIV, No. 8, August, 1897, pp. 75-77.

An account of the nesting of *Ixobrychus exilis*, *Porphyrio martinica*, and *Cassidix mexicanus major* in southern Louisiana.

- 1897.—DRYOBATES. *The Red Cockaded Woodpecker*. The Oologist, Vol. XIV, No. 9, September, 1897, pp. 85-86.

A short account of the habits of this bird in Louisiana.

- 1897.—HARDING, E. *Mockingbirds and Gnatcatchers*. The Oologist, Vol. XIV, No. 6, June, 1897, pp. 57-58.

An account of the habits of the Mockingbird, the Blue-gray Gnatcatcher, and the Cowbird near Shreveport, Louisiana.

- 1897.—KOPMAN, HENRY HAZLITT. *Pine Siskins far South*. The Nidologist, Vol. IV, No. 8, April, 1897, p. 95.

Note on the occurrence of Pine Siskins and early dates of arrival of several other species of birds in Louisiana.

- 1897.—MCILHENNY, EDWARD AVERY. *A List of the Species of Anseres, Paludicolae, and Limicolae Occurring in the State of Louisiana*. The Auk, Vol. XIV, No. 3, July, 1897, pp. 285-289.

A list of 73 species and subspecies of these birds occurring in Louisiana.

- 1897.—TOWNSEND, CHARLES HASKINS. *Descriptions of a New Eagle from Alaska and a New Squirrel from Lower California*. Proceedings of the Biological Society of Washington, Vol. XI, June 9, 1897, pp. 145-146.

Mentions a specimen of *Haliaeetus leucocephalus leucocephalus* from Louisiana.

- 1897.—[WIDMANN, OTTO.] *Pine Siskin, Spinus pinus*. Bulletin of the Wilson Ornithological Chapter, No. 14, May 31, 1897, p. 30.

A short account of the migration of the Pine Siskin in Louisiana.

- 1898.—ALLISON, ANDREW. *Louisiana Tanager and Sprague's Pipit in Louisiana*. Bulletin of the Michigan Ornithological Club, Vol. II, Nos. 3-4, July-December, 1898, p. 39.

An account of the collecting of specimens of these birds in Louisiana.

- 1898.—DAVIE, OLIVER. *Nests and Eggs of North American Birds, Fifth Edition*, February 10, 1898, pp. 1-509, 1-18, i-xxi, pls. I-V.

Contains several references to birds in Louisiana.

- 1898.—OBERHOLSER, HARRY CHURCH. *A Revision of the Wrens of the Genus Thryomanes Sclater*. Proceed-

ings of the United States National Museum, Vol. XXI, November 19, 1898, pp. 421-450.

Mentions the type locality of *Thryomanes bewickii bewickii* as Saint Francisville, Louisiana.

- 1899.—BANGS, OUTRAM. *The Florida Meadowlark*. Proceedings of the New England Zoölogical Club, Vol. I, February 28, 1899, p. 21.

Mentions its occurrence in Louisiana.

- 1899.—CHAPMAN, FRANK MICHLER. *The Distribution and Relationships of Ammodramus maritimus and Its Allies*. The Auk, Vol. XVI, No. 1, January, 1899, pp. 1-12.

Includes the original technical description of *Thryospiza maritima fisheri*, from specimens taken in Louisiana.

- 1900.—ALLISON, ANDREW. *The Cinnamon Teal in Louisiana*. The Auk, Vol. XVII, No. 2, April, 1900, p. 170.

Mentions several records of this species in Louisiana.

- 1900.—ALLISON, ANDREW. *Louisiana and Mississippi Bird Notes*. The Auk, Vol. XVII, No. 3, July, 1900, p. 297.

Mentions a specimen of the Louisiana Tanager taken in Jefferson Parish, Louisiana.

- 1900.—BEYER, GEORGE EUGENE. *The Avifauna of Louisiana, with an Annotated List of the Birds of the State*. Proceedings of the Louisiana Society of Naturalists, for 1897-1899 (1900), pp. 75-120.

This is an annotated list of 323 species and subspecies of birds found in Louisiana.

- 1900.—BEYER, GEORGE EUGENE. *The Ivory-billed Woodpecker in Louisiana*. The Auk, Vol. XVII, No. 2, April, 1900, pp. 97-99.

A short account of the habits of the Ivory-billed Woodpecker as noted in Franklin Parish, Louisiana.

- 1900.—KOPMAN, HENRY HAZLITT. *Notes on Bird Migration, 1898*. Proceedings of the Louisiana Society of Naturalists, 1897-1899 (1900), pp. 65-66.

Includes several notes on the late occurrence at West Pointe a la Hache, Plaquemines Parish, of water birds that would ordinarily be expected to have migrated north.

- 1900.—KOPMAN, HENRY HAZLITT. *Turning Points in the Spring Migration of 1899*. Proceedings of the Louisiana Society of Naturalists, 1897-1899 (1900), pp. 133-135.

Discusses migration data of birds at New Orleans in relation to the weather.

- 1901.—WIDMANN, OTTO. *A Visit to Audubon's Birthplace*. The Auk, Vol. XVIII, No. 2, April, 1901, pp. 150-151.

An account of the birds noted at Mandeville, Louisiana, during February and March, 1897.

- 1901-1919.—RIDGWAY, ROBERT. *The Birds of North and Middle America*. Bulletin of the United States National Museum, No. 50, Parts I-VIII, 1901-1919.

Contains numerous references to birds from Louisiana.

- 1902.—HOWE, REGINALD HEBER. *Notes on Various Florida Birds*. Contributions to North American Ornithology, Vol. I, May 21, 1902, pp. 25-32.

Includes remarks on specimens of *Cerchneis sparveria paula* and *Thryospiza maritima fisheri* from Louisiana.

- 1902.—KOPMAN, HENRY HAZLITT. *Winter Notes from Louisiana*. The Auk, Vol. XIX, No. 2, April, 1902, pp. 210-211.

A short account of a number of birds that winter at New Iberia, Louisiana.

- 1903.—BANGS, OUTRAM. *The Louisiana Cardinal*. Proceedings of the New England Zoölogical Club, Vol. IV, March 24, 1903, pp. 5-7.

The original technical description of *Cardinalis* [= *Richmondia*] *cardinalis magnirostris*, from specimens collected in West Baton Rouge Parish, Louisiana.

- 1903.—COOKE, WELLS WOODBRIDGE. *The Migration of Warblers, First Paper*. Bird-Lore, Vol. V, No. 6, December 1, 1903, pp. 188-193.

Reference is made to the migration of the American Redstart, and the Blackburnian and Prothonotary Warblers in Louisiana.

- 1903.—KOPMAN, HENRY HAZLITT. *Louisiana Migration Notes*. The Auk, Vol. XX, No. 3, July, 1903, pp. 309-310.

Contains some late records for several species of warblers near New Orleans, Louisiana.

- 1903.—OBERHOLSER, HARRY CHURCH. *Description of a New Telmatodytes*. Proceedings of the Biological Society of Washington, Vol. XVI, November 12, 1903, pp. 149-150.

Mentions the distribution of *Telmatodytes palustris thryophilus* in Louisiana.

- 1903.—SANFORD, LEONARD CUTLER; BISHOP, LOUIS BENNETT; AND VAN DYKE, THEODORE STRONG. *The Water-fowl Family*, 1903, pp. i-x, 1-598.

Contains many distribution references to birds in Louisiana.

- 1904.—ALLISON, ANDREW. *The Birds of West Baton Rouge Parish, Louisiana*. The Auk, Vol. XXI, No. 4, October, 1904, pp. 472-484.

An annotated list of 130 species from West Baton Rouge Parish, Louisiana.

- 1904.—COOKE, WELLS WOODBRIDGE. *The Migration of Warblers, Second Paper*. Bird-Lore, Vol. VI, No. 1, February 1, 1904, pp. 21-26.

Reference is made to the migration of the Hooded Warbler and the Yellow-breasted Chat in Louisiana.

- 1904.—COOKE, WELLS WOODBRIDGE. *The Migration of Warblers, Third Paper*. Bird-Lore, Vol. VI, No. 2, April 1, 1904, pp. 57-60.

Records are given of the migration of the Black-throated Green Warbler in Louisiana.

- 1904.—COOKE, WELLS WOODBRIDGE. *The Migration of Warblers, Fourth Paper*. Bird-Lore, Vol. VI, No. 3, June 1, 1904, pp. 91-92.

Reference is made to the migration of the Blue-winged Warbler and the Golden-winged Warbler in Louisiana.

- 1904.—COOKE, WELLS WOODBRIDGE. *The Migration of Warblers, Sixth Paper*. Bird-Lore, Vol. VI, No. 5, October 1, 1904, pp. 162-163.

Record is made of the migration of the Chestnut-sided Warbler in Louisiana.

- 1904.—COOKE, WELLS WOODBRIDGE. *The Migration of Warblers, Seventh Paper*. Bird-Lore, Vol. VI, No. 6, December 1, 1904, pp. 199-200.

Reference is made to the migration of the Magnolia Warbler in Louisiana.

- 1904.—COOKE, WELLS WOODBRIDGE. *Distribution and Migration of North America Warblers*. Bulletin of the Division of Biological Survey, United States Department of Agriculture, No. 18, December 1, 1904, pp. 1-142.

Contains many references to the occurrence of warblers in Louisiana.

- 1904.—KOPMAN, HENRY HAZLITT. *Bird Migration Phenomena in the extreme Lower Mississippi Valley*. The Auk, Vol. XXI, No. 1, January, 1904, pp. 45-50.

Some unusual species of birds mentioned as occurring in Louisiana.

- 1905.—COOKE, WELLS WOODBRIDGE. *The Migration of Warblers, Eighth Paper*. Bird-Lore, Vol. VII, No. 1, February 1, 1905, pp. 32-35.

Mentions the migration of the Yellow Warbler in Louisiana.

- 1905.—COOKE, WELLS WOODBRIDGE. *The Migration of Warblers, Ninth Paper*. Bird-Lore, Vol. VII, No. 2, April 1, 1905, pp. 135-136.

Reference is made to the migration of the Kentucky Warbler in Louisiana.

- 1905.—COOKE, WELLS WOODBRIDGE. *The Migration of Warblers, Tenth Paper*. Bird-Lore, Vol. VII, No. 3, June 1, 1905, pp. 169-170.

Mention is made of the migration of the Mourning Warbler in Louisiana.

- 1905.—COOKE, WELLS WOODBRIDGE. *The Migration of Warblers, Eleventh Paper*. Bird-Lore, Vol. VII, No. 4, August 1, 1905, pp. 203-206.

Reference is made to the migration of the Black-and-White Warbler in Louisiana.

- 1905.—COOKE, WELLS WOODBRIDGE. *The Migration of Warblers, Twelfth Paper*. Bird-Lore, Vol. VII, No. 5, October 1, 1905, pp. 237-239.

Reference is made to the migration of the Tennessee Warbler in Louisiana.

- 1905.—KOPMAN, HENRY HAZLITT. *List of Birds Seen in Jefferson Parish, Louisiana, April 1, 1904*. The Auk, Vol. XXII, No. 2, April, 1905, pp. 140-145.

An annotated list of 64 species of birds noted in Jefferson Parish, Louisiana.

- 1905.—KOPMAN, HENRY HAZLITT. *A Killdeer's Mishap*. The Auk, Vol. XXII, No. 2, April, 1905, pp. 209-210.

Mentions a flock of Killdeers near New Orleans, Louisiana.

- 1905.—KOPMAN, HENRY HAZLITT. *Warbler Migration in Southern Louisiana and Southern Mississippi*. The Auk, Vol. XXII, No. 3, July, 1905, pp. 289-296.

A number of species of warblers noted as occurring in Louisiana.

- 1905.—[MILLER, FRANK M.] [*Report of the Audubon Society of the State of Louisiana.*] *Bird-Lore*, Vol. VIII, No. 6, December 1, 1905, pp. 320-322.

An account of what had been accomplished for the protection of birds by the State Audubon Society.

- 1905.—OATES, EUGENE WILLIAM; AND REID, SAVILE GREY. *Catalogue of the Collection of Birds' Eggs in the British Museum*, Vol. IV, 1905, pp. i-xviii, 1-352.

Eggs of *Mimus polyglottos* from Louisiana are recorded.

- 1906.—BEYER, GEORGE EUGENE. *Bird-Lore's Sixth Christmas Bird Census, Lake Catherine, La.* *Bird-Lore*, Vol. VIII, No. 1, February 1, 1906, pp. 21-22.

A list of 49 species of birds observed at Lake Catherine, Louisiana.

- 1906.—COOKE, WELLS WOODBRIDGE. *The Migration of Warblers, Fourteenth Paper.* *Bird-Lore*, Vol. VIII, No. 1, February 1, 1906, pp. 26-27.

Reference is made to the migration of the Bachman Warbler, Swainson Warbler, and Worm-eating Warbler in Louisiana.

- 1906.—COOKE, WELLS WOODBRIDGE. *The Migration of Warblers, Sixteenth Paper.* *Bird-Lore*, Vol. VIII, No. 3, June 1, 1906, pp. 100-102.

Reference is made to the migration of the Ovenbird and Louisiana Waterthrush in Louisiana.

- 1906.—COOKE, WELLS WOODBRIDGE. *Distribution and Migration of North American Ducks, Geese, and Swans.* Bulletin of the Biological Survey, United States Department of Agriculture, No. 26, September, 1906, pp. 1-87.

Includes references to birds in Louisiana.

- 1906.—COOKE, WELLS WOODBRIDGE. *The Migration of Warblers, Eighteenth Paper.* *Bird-Lore*, Vol. VIII, No. 5, October 1, 1906, pp. 168-169.

Mention is made of the migration of the Parula Warbler in Louisiana.

- 1906.—COOKE, WELLS WOODBRIDGE. *The Migration of Warblers, Nineteenth Paper.* Bird-Lore, Vol. VIII, No. 6, December 1, 1906, pp. 203-204.

Reference is made to the migration of the Cerulean Warbler in Louisiana.

- 1906.—KOPMAN, HENRY HAZLITT; AND WRAIGHT, MRS. PERCIVAL. *Bird-Lore's Sixth Christmas Bird Census, New Orleans, La.* Bird-Lore, Vol. VIII, No. 1, February 1, 1906, p. 21.

A list of 39 species of birds noted at New Orleans, Louisiana.

- 1906.—MILLER, FRANK M. [*Report of the Audubon Society of the State of Louisiana.*] Bird-Lore, Vol. VIII, No. 6, December 1, 1906, pp. 258-260.

An account of work done during the year by the State Audubon Society of Louisiana.

- 1906.—TAVERNER, PERCY ALGERNON. *Tagging Migrants.* The Auk, Vol. XXIII, No. 2, April, 1906, p. 232.

Mentions the taking of a Flicker (*Colaptes auratus luteus*) at Many, Sabine Parish, Louisiana, which had been banded at Keota, Iowa.

- 1906-1908.—BEYER, GEORGE EUGENE; ALLISON, ANDREW; AND KOPMAN, HENRY HAZLITT. *List of Birds of Louisiana.* The Auk, Vol. XXIII, No. 1, January, 1906, pp. 1-15; No. 3, July, 1906, pp. 275-282; Vol. XXIV, No. 3, July, 1907, pp. 314-321; Vol. XXV, No. 2, April, 1908, pp. 173-180; No. 4, October, 1908, pp. 439-448.

An annotated list of 185 species and subspecies of birds from Louisiana.

- 1907.—ALLISON, ANDREW. *Notes on the Spring Birds of Tishomingo County, Mississippi.* The Auk, Vol. XXIV, No. 1, January, 1907, pp. 12-25.

Mentions several species of birds as occurring in Louisiana.

- 1907.—CHAPMAN, FRANK MICHLER. *The Warblers of North America*, 1907, pp. i-ix, 1-306, pls. I-XXIV.

Contains many references to warblers in Louisiana.

- 1907.—COOKE, WELLS WOODBRIDGE. *The Migration of Thrushes, First Paper*. Bird-Lore, Vol. IX, No. 1, February 1, 1907, pp. 32-34.

Records are given of the migration of the Wood Thrush and Veery in Louisiana.

- 1907.—COOKE, WELLS WOODBRIDGE. *The Migration of Thrushes, Third Paper*. Bird-Lore, Vol. IX, No. 3, June 1, 1907, pp. 121-125.

Reference is made to the migration of the Gray-cheeked, Olive-backed, and Hermit Thrushes in Louisiana.

- 1907.—COOKE, WELLS WOODBRIDGE. *The Migration of Flycatchers, First Paper*. Bird-Lore, Vol. IX, No. 6, December 1, 1907, pp. 264-265.

Mention is made of the migration of the Scissor-tailed Flycatcher in Louisiana.

- 1907.—KOPMAN, HENRY HAZLITT. *Aspects of Bird Distribution in Louisiana and Mississippi*. The Auk, Vol. XXIV, No. 2, April, 1907, pp. 169-181.

A detailed account of the birds that are found in various types of habitat in Louisiana.

- 1907.—KOPMAN, HENRY HAZLITT. *Report of Exploration of Seabird Colonies*. Bird-Lore, Vol. IX, No. 5, October 1, 1907, pp. 233-240.

A report of the conditions of sea bird life observed during a cruise along the coast of Louisiana between the Sabine River and Pass a Loutre, Mississippi River, May 15 to June 21, 1907.

- 1907.—KOPMAN, HENRY HAZLITT. *Report of Special Agent H. H. Kopman*. Bird-Lore, Vol. IX, No. 6, December 1, 1907, pp. 305-306.

An account of a cruise along the Louisiana coast, with detailed information concerning the breeding colonies of birds found.

- 1907.—MILLER, FRANK M. [*Report of the Audubon Society of the State of Louisiana.*] *Bird-Lore*, Vol. IX, No. 6, December 1, 1907, pp. 339-340.

A short account of the activities of the State Audubon Society of Louisiana during the year.

- 1907.—NEHRLING, HENRY. *Die Gesangskönigin der Nord-amerikanischen Vogelwelt*. Ornithologische Monatschrift, Vol. XXXII, No. 1, January, 1907, pp. 56-69.

Mentions the Wood Thrush in Louisiana.

- 1908.—COOKE, WELLS WOODBRIDGE. *The Migration of Flycatchers, Fourth Paper*. *Bird-Lore*, Vol. X, No. 3, June 1, 1908, pp. 114-117.

Reference is made to the migration of the Yellow-bellied Flycatcher, the Acadian Flycatcher, and the Least Flycatcher, in Louisiana.

- 1908.—COOKE, WELLS WOODBRIDGE. *The Migration of Flycatchers, Fifth Paper*. *Bird-Lore*, Vol. X, No. 4, August 1, 1908, pp. 166-170.

Reference is made to the migration of the Eastern Kingbird and the Eastern Wood Pewee in Louisiana.

- 1908.—COOKE, WELLS WOODBRIDGE. *The Migration of Flycatchers, Sixth Paper*. *Bird-Lore*, Vol. X, No. 5, October 1, 1908, pp. 210-212.

Mention is made of the migration of the Eastern Phoebe in Louisiana.

- 1908.—COOKE, WELLS WOODBRIDGE. *The Migration of Flycatchers, Seventh Paper*. *Bird-Lore*, Vol. X, No. 6, December 1, 1908, pp. 258-259.

Reference is made to the migration of the Olive-sided Flycatcher in Louisiana.

- 1908.—HOWELL, ARTHUR HOLMES. *Notes on the Winter Birds of Northern Louisiana*. Proceedings of the Biological Society of Washington, Vol. XXI, April 11, 1908, pp. 119-124.

A list of 70 kinds of birds noted in the northern part of Louisiana during January and February, 1908.

- 1908.—JOB, HERBERT KEIGHTLEY. *Reservation News; Battledore Island, Louisiana*. Bird-Lore, Vol. X, No. 4, August 1, 1908, pp. 187-189 (illustr. p. 188); No. 6, December 1, 1908, illustr. p. 276.

Contains a description of the bird life of this island.

- 1908.—KNIGHT, ORA WILLIS. *The Birds of Maine*, September 29, 1908, pp. i-xvii, 19-693, pls. I-II.

Reference is made to some species of birds from Louisiana.

- 1908.—KOPMAN, HENRY HAZLITT. *Inspection of Breton Island Reservation, Louisiana*. Bird-Lore, Vol. X, No. 5, October 1, 1908, pp. 229-231.

Contains a detailed list of the birds on each island of this reservation in Louisiana.

- 1908.—LOUISIANA STATE MUSEUM BOARD OF CURATORS. *Natural History Exhibit*. First Biennial Report of the Board of Curators, Louisiana State Museum, 1908, pp. 55-63.

Includes a list of 201 Louisiana birds in the Natural History Exhibit collected by the Louisiana Commission for the Saint Louis World's Fair.

- 1908.—LOUISIANA STATE MUSEUM BOARD OF CURATORS. *Audubon Society's Bird Breeding Islands*. First Biennial Report of the Board of Curators, Louisiana, State Museum, 1908, pp. 77-78.

A short description of Breton Island and Battledore Island reservations with a list of the breeding birds.

- 1909.—BOWDISH, BEECHER SCOVILLE. *Ornithological Miscellany from Audubon Wardens*. The Auk, Vol. XXVI, No. 2, April, 1909, pp. 116-128.

Contains some interesting items on birds from reports of the wardens of East Timbalier Island, Breton Island, and Tern Island reservations, Louisiana.

- 1909.—COLE, LEON JACOB. *The Tagging of Wild Birds as a Means of Studying their Movements*. The Auk, Vol. XXVI, No. 2, April, 1909, pp. 137-143.

Mentions the taking of a Northern Flicker at Many, Sabine Parish, Louisiana.

- 1909.—COOKE, WELLS WOODBRIDGE. *The Migration of Flycatchers, Eighth Paper*. Bird-Lore, Vol. XI, No. 1, February 1, 1909, pp. 12-14.

Mention is made of the migration of the Crested Flycatcher in Louisiana.

- 1909.—COOKE, WELLS WOODBRIDGE. *The Migration of Vireos, First Paper*. Bird-Lore, Vol. XI, No. 2, April 1, 1909, pp. 78-82.

Records of the migration of the Philadelphia Vireo, the Warbling Vireo, and the Red-eyed Vireo are given for Louisiana.

- 1909.—COOKE, WELLS WOODBRIDGE. *The Migration of Vireos, Third Paper*. Bird-Lore, Vol. XI, No. 4, August 1, 1909, pp. 165-168.

Reference is made to the migration of the Yellow-throated Vireo in Louisiana.

- 1909.—HOWELL, ARTHUR HOLMES. *Agelaius phoeniceus fortis in Louisiana*. The Auk, Vol. XXVI, No. 2, April, 1909, p. 192.

A record of this subspecies from Belcher, Louisiana.

- 1910.—[BENT, ARTHUR CLEVELAND.] *Report of Arthur C. Bent on the Breton Island Reservation*. Bird-Lore, Vol. XII, No. 6, December 1, 1910, pp. 280-282.

A detailed account of conditions at the various water bird colonies on the coast of Louisiana.

- 1910.—COOKE, WELLS WOODBRIDGE. *The Migration of North American Sparrows, Second Paper*. Bird-Lore, Vol. XII, No. 1, February 1, 1910, pp. 12-15.

Records of the migration of the Grasshopper Sparrow and Leconte Sparrow are given for Louisiana.

- 1910.—COOKE, WELLS WOODBRIDGE. *The Migration of North American Sparrows, Fourth Paper*. Bird-Lore, Vol. XII, No. 3, June 1, 1910, pp. 111-112.

Reference is made to the migration of the Nelson Sparrow in Louisiana.

- 1910.—COOKE, WELLS WOODBRIDGE. *The Migration of North American Sparrows, Fifth Paper*. Bird-Lore, Vol. XII, No. 4, August 1, 1910, pp. 139-141.

Reference is made to the migration of the Eastern Goldfinch in Louisiana.

- 1910.—COOKE, WELLS WOODBRIDGE. *Distribution and Migration of North American Shorebirds*. Bulletin of the Biological Survey, United States Department of Agriculture, No. 35, October 6, 1910, pp. 1-100, pls. I-IV.

Mentions a number of species of birds from Louisiana.

- 1910.—LOUISIANA STATE MUSEUM BOARD OF CURATORS. *Additions to Collections by Gift*. Second Biennial Report of the Board of Curators, Louisiana State Museum, 1910, pp. 51-52.

Includes some additional species of Louisiana birds donated to the Museum.

- 1910.—MCATEE, WALDO LEE. *Notes on Chen caerulescens, Chen rossi and Other Waterfowl in Louisiana*. The Auk, Vol. XXVII, No. 3, July, 1910, pp. 337-339.

A short account of the abundance of the Blue Goose and other species of birds in Louisiana.

- 1911.—COOKE, WELLS WOODBRIDGE. *The Migration of North American Sparrows, Ninth Paper*. Bird-Lore, Vol. XIII, No. 2, April 1, 1911, pp. 83-88.

Reference is made to the migration of the Dickcissel and Eastern Vesper Sparrow in Louisiana.

- 1911.—COOKE, WELLS WOODBRIDGE. *The Migration of North American Sparrows, Tenth Paper*. Bird-Lore, Vol. XIII, No. 3, June 1, 1911, pp. 144-146.

Mention is made of the migration of the Eastern Savannah Sparrow in Louisiana.

- 1911.—COOKE, WELLS WOODBRIDGE. *The Migration of North American Sparrows, Eleventh Paper*. Bird-Lore, Vol. XIII, No. 4, August 1, 1911, pp. 198-201.

Reference is made to the migration of the Eastern Blue Grosbeak and Indigo Bunting in Louisiana.

- 1911.—COOKE, WELLS WOODBRIDGE. *The Migration of North American Sparrows, Twelfth Paper*. Bird-Lore, Vol. XIII, No. 5, October 1, 1911, pp. 248-249.

Contains records of the migration of the Painted Bunting in Louisiana.

- 1911.—GAULT, BENJAMIN TRUE. *A Private Bird Preserve*. The Wilson Bulletin, Vol. XXIII, No. 1, March, 1911, pp. 59-60.

A note on the nesting species of birds at Avery Island, Louisiana.

- 1911.—HOWELL, ARTHUR HOLMES. *Birds of Arkansas*. Bulletin of the Biological Survey, United States Department of Agriculture, No. 38, October 12, 1911, pp. 1-100, pls. I-VII.

Several references are made to birds in Louisiana.

- 1911.—JOB, HERBERT KEIGHTLEY, *The Blue Goose Chase. A Camera-Hunting Adventure in Louisiana*. 1911, pp. 1-331.

Contains references to several species of birds in Louisiana.

- 1911.—MCATEE, WALDO LEE. *Winter Ranges of Geese on the Gulf Coast; Notable Bird Records for the Same Region*. The Auk, Vol. XXVIII, No. 2, April, 1911, pp. 272-274.

Some unusual records of birds for Louisiana, including the only State record of the American Flamingo.

- 1911.—MCATEE, WALDO LEE. *Local Names of Waterfowl and Other Birds*. Forest and Stream, Vol. LXXVII, No. 5, July 29, 1911, pp. 172-174, 196.

A list of 96 local names, including many species from Louisiana.

- 1911.—WARD, CHARLES WILLIS. *The Ward-McIlhenny Wildfowl Refuge*. Forest and Stream, Vol. LXXVII, No. 5, July 29, 1911, pp. 167-170.

An account of the history of this refuge, including the species of birds found there.

- 1911.—WRIGHT, ALBERT HAZEN. *Other Early Records of the Passenger Pigeon*. The Auk, Vol. XXVIII, No. 4, October, 1911, pp. 427-449.

Mentions several records of this species in Louisiana.

- 1912.—CHAPMAN, FRANK MICHLER. *Handbook of Birds of Eastern North America*, June 5, 1912, pp. i-xxix, 1-530, pls. I-XXIV.

Contains references to the distribution of birds in Louisiana.

- 1912.—COOKE, WELLS WOODBRIDGE. *The Migration of North American Sparrows, Fourteenth Paper*. Bird-Lore, Vol. XIV, No. 1, February 1, 1912, pp. 45-47.

Reference is made to the migration of the Red Crossbill in Louisiana.

- 1912.—COOKE, WELLS WOODBRIDGE. *The Migration of North American Sparrows, Fifteenth Paper*. Bird-Lore, Vol. XIV, No. 2, April 1, 1912, pp. 98-105.

Records are given of the migration of the White-crowned Sparrow and White-throated Sparrow in Louisiana.

- 1912.—COOKE, WELLS WOODBRIDGE. *Distribution and Migration of North American Shorebirds*. Bulletin of the Biological Survey, United States Department of Agriculture, No. 35, May 18, 1912, pp. 1-100, pls. I-IV.

Includes many references to shorebirds in Louisiana.

- 1912.—COOKE, WELLS WOODBRIDGE. *The Migration of North American Sparrows, Sixteenth Paper.* Bird-Lore, Vol. XIV, No. 3, June 1, 1912, pp. 158-161.

Reference is made to the migration of the Rose-breasted Grosbeak in Louisiana.

- 1912.—FORBUSH, EDWARD HOWE. *Game Birds, Wild-Fowl, and Shore Birds.* 1912, pp. i-xvi, 1-622.

Contains a few references to birds in Louisiana, particularly the Passenger Pigeon.

- 1912.—MCILHENNY, EDWARD AVERY. *How I Made a Bird City.* Country Life in America, Vol. XXII, No. 9, September 1, 1912, pp. 23-28.

The story of a colony of herons and other birds in southern Louisiana.

- 1912.—OGILVIE-GRANT, WILLIAM ROBERT. *Catalogue of the Collection of Birds' Eggs in the British Museum.* Vol. V., 1912, pp. i-xxiii, 1-547, 1-30, pls. I-XXII.

Eggs of *Icterus spurius* are recorded from Louisiana on p. 390.

- 1912.—WRIGHT, ALBERT HAZEN. *Early Records of the Carolina Paroquet.* The Auk, Vol. XXIX, No. 3, July 6, 1912, pp. 344-357.

Contains references to this species as occurring in Louisiana.

- 1913.—BANGS, OUTRAM. *An Unnamed Race of the Carolina Paroquet.* Proceedings of the New England Zoölogical Club, Vol. IV, November 26, 1913, pp. 93-94.

Includes Louisiana in the distribution of this subspecies, the Louisiana Parakeet.

- 1913.—COOKE, WELLS WOODBRIDGE. *Distribution and Migration of North American Herons and Their Allies.* Bulletin of the Biological Survey, United States De-

partment of Agriculture, No. 45, May 24, 1913, pp. 1-70.

Includes many references to these birds in Louisiana.

- 1913.—COOKE, WELLS WOODBRIDGE. *The Migration of North American Sparrows, Twenty-third Paper*. Bird-Lore, Vol. XV, No. 4, August 1, 1913, pp. 236-240.

Reference is made to the migration of the Swamp Sparrow in Louisiana.

- 1913.—FISHER, ALBERT KENRICK. *Recovery of a Banded Pintail Duck*. The Auk, Vol. XXXI, No. 1, for January, 1914 [December 31, 1913], p. 100.

Mentions a specimen of the Pintail killed at Cubit's Gap, near the mouth of the Mississippi River.

- 1913.—HOWELL, ARTHUR HOLMES. *Descriptions of Two New Birds from Alabama*. Proceedings of the Biological Society of Washington, Vol. XXVI, October 23, 1913, pp. 199-202.

Mentions the distribution of the Southern Crow, *Corvus brachyrhynchos paulus*, in Louisiana.

- 1913.—MCATEE, WALDO LEE. *Two Ornithological Fables from Louisiana*. The Auk, Vol. XXX, No. 2, for April [March 31], 1913, p. 282.

Two fables about the Wood Ibis and the dove, heard in Avoyelles Parish, Louisiana.

- 1914.—CONSERVATION COMMISSION OF LOUISIANA. *Game Birds, Non Game Birds*. Report of the Conservation Commission of Louisiana for September 1, 1912, to April 1, 1914 (1914), pp. 51-62.

An article on game protection in Louisiana.

- 1914.—COOKE, WELLS WOODBRIDGE. *The Migration of North American Sparrows, Twenty-sixth Paper*. Bird-Lore, Vol. XVI, No. 1, February 1, 1914, pp. 19-23.

Reference is made to the migration of the Eastern Purple Finch in Louisiana.

- 1914.—COOKE, WELLS WOODBRIDGE. *The Migration of North American Sparrows, Thirty-first Paper*. Bird-Lore, Vol. XVI, No. 6, December 1, 1914, pp. 438-442.

Reference is made to the migration of the Slate-colored Junco in Louisiana.

- 1914.—LOUISIANA STATE MUSEUM BOARD OF CURATORS. *Department of Natural History—Accessions, Birds*. Fourth Biennial Report of the Board of Curators, Louisiana State Museum, 1914, pp. 102-103.

Includes mention of several Louisiana birds donated to the museum.

- 1914.—MCATEE, WALDO LEE. *Birds Transporting Food Supplies*. The Auk, Vol. XXXI, No. 3, June 29, 1914, pp. 404-405.

Mentions several specimens of the Upland Plover taken in Louisiana.

- 1914.—MCLHENNY, EDWARD AVERY. *The Wild Turkey and Its Hunting*, 1914, pp. i-xi, 1-245.

This is based largely on the notes, manuscript, and plates of Charles L. Jordan, manager of the Morris Game Preserve near Hammond, Louisiana, and contains a picture of nest and eggs of the Eastern Turkey located in Louisiana.

- 1914.—OBERHOLSER, HARRY CHURCH. *A Monograph of the Genus Chordeiles Swainson, Type of a New Family of Goatsuckers*. Bulletin of the United States National Museum, No. 86, April 6, 1914, pp. i-vi, 1-123.

Contains records of *Chordeiles minor chapmani* from Louisiana.

- 1914.—OBERHOLSER, HARRY CHURCH. *Pooecetes gramineus confinis in Louisiana*. Proceedings of the Biological Society of Washington, Vol. XXVII, May 11, 1914, p. 101.

Record of a specimen of this bird taken at Natchitoches, Louisiana, which is its easternmost appearance.

- 1914.—WRIGHT, ALBERT HAZEN. *Early Records of the Wild Turkey*. The Auk, Vol. XXXI, No. 3, June 29, 1914, pp. 334-358.

Contains a reference to this bird in Louisiana.

- 1915.—[ARTHUR, STANLEY CLISBY.] *New Duck Species Breeding in Louisiana*. The Wilson Bulletin, Vol. XXVII, No. 3, September, 1915, pp. 412-413.

A general account of the Louisiana breeding of *Anas platyrhynchos*, *Chaulelasmus streperus*, *Mareca americana*, and *Numenius americanus americanus*.

- 1915.—COALE, HENRY KELSO. *The Present Status of the Trumpeter Swan (Olor buccinator)*. The Auk, Vol. XXXII, No. 1, January 1, 1915, pp. 82-90.

Mentions the status of this species in Louisiana.

- 1915.—COOKE, WELLS WOODBRIDGE. *The Migration of North American Kinglets*. Bird-Lore, Vol. XVII, No. 2, April 1, 1915, pp. 118-125.

Records are given of the migration of the Golden-crowned and Ruby-crowned Kinglets in Louisiana.

- 1915.—COOKE, WELLS WOODBRIDGE. *The Migration of North American Birds*. Bird-Lore, Vol. XVII, No. 3, June 1, 1915, pp. 199-203.

Reference is made to the migration of the Blue-gray Gnatcatcher in Louisiana.

- 1915.—[JOB, HERBERT KEIGHTLEY; AND ARTHUR, STANLEY CLISBY.] *A New Louisiana Bird*. The Wilson Bulletin, Vol. XXVII, No. 92, September, 1915, pp. 411-412.

Note on the occurrence of the Wilson Petrel (*Oceanites oceanicus*) off the Louisiana coast west of the Mississippi River.

- 1915.—KOPMAN, HENRY HAZLITT. *List of the Birds of Louisiana, Part VI*. The Auk, Vol. XXXII, No. 1,

January 1, 1915, pp. 15-29. *Part VII*. The Auk, Vol. XXXII, No. 2, April 1, 1915, pp. 183-194.

This is the continuation and completion of the list of Louisiana birds by Beyer, Allison, and Kopman, and includes 137 species and subspecies.

- 1915.—WRIGHT, ALBERT HAZEN. *Early Records of the Wild Turkey*. The Auk, Vol. XXXII, April 1, 1915, pp. 213-214.

Includes records of the Wild Turkey in Louisiana.

- 1916.—ARTHUR, STANLEY CLISBY. *Conservation of Wild Bird Life*. Report of the Conservation Commission of Louisiana, for April 1, 1914, to April 1, 1916 [1916], pp. 9-35.

An article on the status of the game, song, and insectivorous birds of Louisiana.

- 1916.—LOUISIANA STATE MUSEUM BOARD OF CURATORS. *Accessions to the Museum by Gifts, Loans, and Exchanges, 1914-1915, Zoölogy*. Fifth Biennial Report of the Board of Curators, Louisiana State Museum, 1916, pp. 76-81.

Mentions several Louisiana species of birds donated to the museum.

- 1916.—PHILLIPS, JOHN CHARLES. *A Note on the Mottled Duck*. The Auk, Vol. XXXIII, No. 4, October 11, 1916, pp. 432-433.

Mentions a series of specimens of the Mottled Duck taken at Avery Island, Louisiana.

- 1917.—KOPMAN, HENRY HAZLITT. *The Agricultural Value of Bird-Life in Louisiana*. Modern Farming, Vol. XLVII, No. 12, June 25, 1917, pp. 3-4.

Includes a list of breeding birds near Maringouin in Pointe Coupee Parish, Louisiana.

- 1917.—KOPMAN, HENRY HAZLITT. *Valuable Insectivorous Birds of Louisiana (Cuckoos and Woodpeckers)*.

Modern Farming, Vol. XLVII, No. 14, July 25, 1917, pp. 2-3.

Contains facts on the food habits of these birds in Louisiana.

- 1917.—KOPMAN, HENRY HAZLITT. *Valuable Insectivorous Birds of Louisiana*. Modern Farming, Vol. XLVII, No. 16, August 25, 1917, pp. 2-3.

An account of the food habits of the Nighthawk.

- 1917.—KOPMAN, HENRY HAZLITT. *Valuable Insectivorous Birds of Louisiana: Species of General Importance*. Modern Farming, Vol. XLVII, No. 17, September 10, 1917, pp. 2-4.

An account of the food habits of the Bobwhite and Meadowlark.

- 1917.—KOPMAN, HENRY HAZLITT. *Insectivorous Birds of Louisiana*. Modern Farming, Vol. XLVII, No. 18, September 25, 1917, pp. 2-3.

An account of the food habits of the Red-winged Blackbird.

- 1917.—LOUISIANA DEPARTMENT OF CONSERVATION. *A Brief Survey of the Natural Resources of Louisiana*. Bulletin of the Louisiana Department of Conservation, No. 2, January, 1917, pp. 1-16.

A few Louisiana birds are mentioned.

- 1917.—MARTIN, DE LOACH. *Bird Life around Lake Hayes [sic], Louisiana, June 7th and 8th, 1917*. The Oologist, Vol. XXXIV, No. 7, July 15, 1917, p. 129.

Mentions the birds seen at Lake Hayes, an artificial lake on the Texas and Pacific Railroad in Caddo Parish, ten miles west of Shreveport, Louisiana.

- 1917.—OBERHOLSER, HARRY CHURCH. *Critical Notes on the Eastern Subspecies of Sitta carolinensis Latham*. The Auk, Vol. XXXIV, No. 2, March 31, 1917, pp. 181-187.

Mentions specimens of this species from Louisiana.

- 1917.—OBERHOLSER, HARRY CHURCH. *The Migration of North American Birds, Second Series; I, Five Swallows.* Bird-Lore, Vol. XIX, No. 6, December 1, 1917, pp. 320-330.

Reference is made to the migration of the Cliff Swallow, Tree Swallow, and Rough-winged Swallow in Louisiana.

- 1917.—PEARSON, THOMAS GILBERT. *Hosts of Water-fowl in Louisiana.* Bird-Lore, Vol. XIX, No. 2, April 1, 1917, p. 117.

An account of the birds on the State preserves in Louisiana.

- 1918.—ARTHUR, STANLEY CLISBY. *The Birds of Louisiana.* Bulletin of the Department of Conservation of Louisiana, No. 5, January, 1918, pp. 1-80.

A list of 368 species and subspecies accredited to Louisiana.

- 1918.—ARTHUR, STANLEY CLISBY. *Report of the Ornithologist.* Biennial Report of the Louisiana Department of Conservation for April 1, 1916, to April 1, 1918 [1918], pp. 99-134.

A detailed report of research, and a compilation of statistical data regarding the bird life of Louisiana.

- 1918.—BAILEY, ALFRED MARSHALL. *Report on the Field Collecting Trips for Birds and Mammals.* Sixth Biennial Report of the Board of Curators of the Louisiana State Museum, January 1, 1916, to December 31, 1917 (1918), pp. 60-64.

A report on various collecting trips in Louisiana, including a short account of the collecting of a Bald Eagle's nest and young.

- 1918.—BAILEY, ALFRED MARSHALL. *Louisiana Bird Refuges.* The Wilson Bulletin, Vol. XXX, No. 1, March, 1918, pp. 11-15.

A description of the protected heronries of Louisiana, enumerating the species of birds inhabiting them.

- 1918.—BAILEY, ALFRED MARSHALL. *The Brown Pelican.—A Good Citizen.* The Wilson Bulletin, Vol. XXX, No. 3, September, 1918, pp. 65-68.

An account of the nesting habits of the Eastern Brown Pelican in Louisiana.

- 1918.—HUNT, CHRESWELL JOHN. *Notes on the February Birdlife of Southern Mississippi and Louisiana.* The Wilson Bulletin, Vol. XXX, No. 3, September, 1918, pp. 68-75.

Contains a number of observations of birds made in February at Mandeville, Louisiana.

- 1918.—KENNARD, FREDERIC HEDGE. *Ferruginous Stains on Waterfowl.* The Auk, Vol. XXXV, No. 2, April 6, 1918, pp. 123-132.

Contains references to several species of ducks from Louisiana.

- 1918.—LOUISIANA STATE MUSEUM BOARD OF CURATORS. *Natural Science Department.* Sixth Biennial Report of the Board of Curators, Louisiana State Museum, January 1, 1916, to December 31, 1917 (1918), pp. 53-59.

Includes a list of some of the Louisiana birds mounted for the exhibition collection.

- 1918.—MCATEE, WALDO LEE. *Food Habits of the Mallard Ducks of the United States.* Bulletin of the United States Department of Agriculture, No. 720, December 23, 1918, pp. 1-36.

Mentions a specimen of *Anas platyrhynchos* taken at Hamburg, Louisiana.

- 1918.—OBERHOLSER, HARRY CHURCH. *The Migration of North American Birds, Second Series; II, The Scarlet and Louisiana Tanagers.* Bird-Lore, Vol. XX, No. 1, February 1, 1918, pp. 16-19.

Records are given of the Scarlet Tanager in Louisiana.

- 1918.—OBERHOLSER, HARRY CHURCH. *The Migration of North American Birds, Second Series; III, The Summer and Hepatic Tanagers, Martins and Barn Swallows.* Bird-Lore, Vol. XX, No. 2, April 1, 1918, pp. 145-152.

Reference is made to the migration of the Summer Tanager, Purple Martin, and Barn Swallow in Louisiana.

- 1918.—OBERHOLSER, HARRY CHURCH. *Notes on the Subspecies of Numenius americanus Bechstein.* The Auk, Vol. XXXV, No. 2, April 6, 1918, pp. 188-195.

Contains reference to a specimen of *Numenius americanus occidentalis* from Calcasieu Pass, Louisiana.

- 1918.—OBERHOLSER, HARRY CHURCH. *The Migration of North American Birds, Second Series; IV, The Waxwings and Phainopepla.* Bird-Lore, Vol. XX, No. 3, June 1, 1918, pp. 219-222.

Reference is made to the migration of the Cedar Waxwing in Louisiana.

- 1918.—OBERHOLSER, HARRY CHURCH. *The Migration of North American Birds, Second Series; VI, Horned Larks.* Bird-Lore, Vol. XX, No. 5, October 1, 1918, pp. 345-349.

Reference is made to the migration of the Horned Lark in Louisiana.

- 1919.—BAILEY, ALFRED MARSHALL. *Birds and Mammals.* Annual Report of the Board of Curators, Louisiana State Museum, for 1918 (January, 1919), pp. 35-42.

Includes a list of Louisiana bird mounts made, and an account of breeding birds seen on a survey of islands along the Louisiana Gulf Coast.

- 1919.—BAILEY, ALFRED MARSHALL. *Observations on the Water Birds of Louisiana.* Natural History, Vol. XIX, No. 1, January, 1919, pp. 45-56.

Contains notes on the habits and haunts of the water birds of Louisiana, with a series of photographs.

- 1919.—BAILEY, ALFRED MARSHALL. *A Series of Duotone Reproductions Showing the Protected Bird Life of Our Louisiana Coast*. Natural History, Vol. XIX, No. 1, January, 1919, pp. 57-72.

Contains 16 photographs of species of birds that are protected on the Louisiana coast.

- 1919.—BAILEY, ALFRED MARSHALL. *The Bald Eagle in Louisiana*. The Wilson Bulletin, Vol. XXXI, No. 2, June, 1919, pp. 52-55.

An account of the nesting habits of the Southern Bald Eagle in Louisiana.

- 1919.—BENT, ARTHUR CLEVELAND. *Life Histories of North American Diving Birds, Order Pygopodes*. Bulletin of the United States National Museum, No. 107, August 1, 1919, pp. i-xiii, 1-245, pls. I-LV.

Contains references to the distribution of these birds in Louisiana.

- 1919.—CORY, CHARLES BARNEY. *Catalogue of Birds of the Americas and the Adjacent Islands in Field Museum of Natural History, Part II, No. 2*. Zoological Series, Field Museum of Natural History, Vol. XIII, December 31, 1919, pp. 317-607.

Records several specimens of *Coccyzus americanus americanus*, *Phloeotomus pileatus pileatus*, *Centurus carolinus*, and *Dryobates pubescens pubescens* from Louisiana.

- 1919.—KENNARD, FREDERIC HEDGE. *Notes on a New Subspecies of Blue-winged Teal*. The Auk, Vol. XXXVI, No. 4, October 31, 1919, pp. 455-460.

Includes the description of a supposed new subspecies, *Querquedula discors albinucha*, from Grand Chenier, Cameron Parish, Louisiana.

- 1919.—LINCOLN, FREDERICK CHARLES. *Some Notes on the Plumage of the Male Florida Red-wing (Agelaius p. floridanus)*. Proceedings of the Biological Society of Washington, Vol. XXXII, December 31, 1919, pp. 196-197.

Mentions its occurrence in Louisiana.

- 1919.—OBERHOLSER, HARRY CHURCH. *Notes on the Wrens of the Genus Nannus Billberg*. Proceedings of the United States National Museum, Vol. LV, May 2, 1919, p. 236.

The occurrence of *Nannus troglodytes hiemalis* in Louisiana is mentioned.

- 1919.—PEARSON, THOMAS GILBERT. *Wild Life Conservation along the Gulf Coast*. Natural History, Vol. XIX, No. 1, January, 1919, pp. 41-43.

An account of the history of wild life conservation in Louisiana.

- 1920.—ARTHUR, STANLEY CLISBY. *A note on the "Southern Teal"*. The Auk, Vol. XXXVII, No. 1, January 20, 1920, pp. 126-127.

Mentions this form as a possible new subspecies of the Blue-winged Teal.

- 1920.—BAILEY, ALFRED MARSHALL. *The Brown Pelicans*. Natural History, Vol. XX, No. 2, March-April, 1920, pp. 197-201.

A series of previously unpublished photographs of the breeding Eastern Brown Pelicans on the Louisiana Gulf coast, with notes on their haunts and habits.

- 1920.—BAILEY, ALFRED MARSHALL. *The Silver-winged Sea Birds*. Natural History, Vol. XX, No. 3, May-June, 1920, pp. 329-333.

Observations on habits made while photographing the breeding birds of the Louisiana Gulf Coast.

- 1920.—DOUGLAS, ELIZABETH NEWMAN. *Mouse and Blue Jay*. Bird-Lore, Vol. XXII, No. 3, June 1, 1920, p. 161.

Mentions the occurrence of the Blue Jay and the Cardinal at Bains in West Feliciana Parish, Louisiana.

- 1920.—GRISCOM, LUDLOW; AND NICHOLS, JOHN TREADWELL. *A Revision of the Seaside Sparrows*. Proceedings

of the Linnaean Society of New York, Vol. XXXIII, November 3, 1920, pp. 18-30.

Mentions specimens, including young of *Thryospiza maritima fisheri*, from Louisiana.

- 1920.—HELMUTH, WILLIAM TOD. *Extracts from Notes Made while in Naval Service*. The Auk, Vol. XXXVII, No. 2, April 15, 1920, pp. 255-261.

Contains notes on many species of birds from the Mississippi Delta.

- 1920.—OBERHOLSER, HARRY CHURCH. *A Synopsis of the Genus Thryomanes*. The Wilson Bulletin, Vol. XXXII, No. 1, March, 1920, p. 19.

Mentions the type locality of *Thryomanes bewickii bewickii* in Louisiana.

- 1920.—OBERHOLSER, HARRY CHURCH. *The Migration of North American Birds, Second Series; XIII, European Starling and the Bobolink*. Bird-Lore, Vol. XXII, No. 4, August 1, 1920, pp. 213-216.

Reference is made to the migration of the Bobolink in Louisiana.

- 1920.—PEARSON, THOMAS GILBERT. *Exploring for New Bird Colonies*. Bird-Lore, Vol. XXII, No. 4, August 1, 1920, pp. 255-262.

Includes some notes on several species of birds in Louisiana.

- 1921.—BENT, ARTHUR CLEVELAND. *Life Histories of North American Gulls and Terns, Order Longipennes*. Bulletin of the United States National Museum, No. 113, August 27, 1921, pp. i-x, 1-345, pls. I-XCIII.

Contains many references to the distribution of these birds in Louisiana.

- 1921.—KOPMAN, HENRY HAZLITT. *Wild Life Resources of Louisiana*. Bulletin of the Louisiana Department of Conservation, No. 10, December, 1921, pp. 9-164.

A popular account of the birds of Louisiana.

- 1921.—OBERHOLSER, HARRY CHURCH. *The Migration of North American Birds, Second Series; XVII, Rusty Blackbird and Brewer Blackbird.* Bird-Lore, Vol. XXIII, No. 6, December 1, 1921, pp. 295-299.

Records are given of the migration of the Rusty Blackbird in Louisiana.

- 1921.—PEARSON, THOMAS GILBERT. *Notes on the Bird-Life of Southeastern Texas.* The Auk, Vol. XXXVIII, No. 4, December 16, 1921, pp. 515-516.

Mentions Eastern Brown Pelicans at Timbalier Pass, and a colony of breeding Roseate Spoonbills in Cameron Parish, Louisiana.

- 1922.—BENT, ARTHUR CLEVELAND. *Life Histories of North American Petrels and Pelicans and Their Allies, Order Tubinares and Order Steganopodes.* Bulletin of the United States National Museum, No. 121, October 19, 1922, pp. i-xii, 1-343, pls. I-LXIX.

Contains many references to the distribution of these birds in Louisiana.

- 1922.—CAREY, WALTER C. *The Starling in Louisiana.* Bird-Lore, Vol. XXIV, No. 2, April 1, 1922, p. 95.

Mentions the Starling on the Mississippi River about 25 miles above Baton Rouge, Louisiana.

- 1922.—OBERHOLSER, HARRY CHURCH. *The Migration of North American Birds, Second Series; XX, Baltimore Oriole.* Bird-Lore, Vol. XXIV, No. 6, December 1, 1922, pp. 339-341.

Records are given of the migration of the Baltimore Oriole in Louisiana.

- 1923.—BENT, ARTHUR CLEVELAND. *Life Histories of North American Wild Fowl, Order Anseres (Part).* Bulletin of the United States National Museum, No. 126, May 25, 1923, pp. i-ix, 1-250, pls. I-XLVI.

Contains many references to the distribution of these birds in Louisiana.

- 1923.—FIGGINS, JESSE DADE. *The Breeding Birds of the Vicinity of Black Bayou and Bird Island, Cameron Parish, Louisiana.* The Auk, Vol. XL, No. 4, October 10, 1923, pp. 667-677.

A list of 42 species of breeding birds.

- 1923.—MCATEE, WALDO LEE. *Local Names of Migratory Game Birds.* Miscellaneous Circular, United States Department of Agriculture, No. 13, October [November 2], 1923, pp. 1-95.

Includes many vernacular names of game birds in Louisiana.

- 1923.—OBERHOLSER, HARRY CHURCH. *The Migration of North American Birds, Second Series; XXI, Orchard Oriole.* Bird-Lore, Vol. XXV, No. 2, March 31, 1923, pp. 119-120.

Some records are given of the migration of the Orchard Oriole in Louisiana.

- 1923-1926.—PHILLIPS, JOHN CHARLES. *A Natural History of the Ducks*, Vol. II, November 16, 1923, pp. i-xii, 1-409, pls. XIX-XLIV; Vol. III, July 24, 1925, pp. i-ix, 1-383, pls. XLV-LXX; Vol. IV, April 2, 1926, pp. i-ix, 1-489, pls. LXXI-CII.

These volumes include records of ducks in Louisiana.

- 1924.—HOWELL, ARTHUR HOLMES. *Birds of Alabama, 1924*, pp. 1-384, pls. I-VII.

Reference is made to several species of birds in Louisiana.

- 1924.—LINCOLN, FREDERICK CHARLES. *Returns from Banded Birds, 1920-1923.* Department Bulletin, United States Department of Agriculture, No. 1268, October 16, 1924, pp. 1-56.

A number of banding records from Louisiana are included.

- 1924.—[LLOYD, HOYES.] *Official Canadian Record of Bird-Banding Returns.* The Canadian Field Naturalist,

Vol. XXXVIII, No. 5, May, 1924, pp. 92, 93; No. 7, September, 1924, pp. 133-135; No. 8, October, 1924, p. 157.

Contains records of banded birds taken in Louisiana.

- 1924.—[LOUISIANA DEPARTMENT OF CONSERVATION.] *Shrike or Butcherbird*. Louisiana Conservation News, Vol. II, No. 4, April, 1924, p. 8.

Gives the food habits of the Loggerhead Shrike.

- 1924.—[LOUISIANA DEPARTMENT OF CONSERVATION.] *Woodpeckers*. Louisiana Conservation News, Vol. II, No. 4, April, 1924, p. 8.

Mentions the Ivory-billed Woodpecker and the Pileated Woodpecker in Louisiana.

- 1924.—[LOUISIANA DEPARTMENT OF CONSERVATION.] *Woodcock*. Louisiana Conservation News, Vol II, No. 5, May, 1924, p. 7.

Notices the Woodcock in Louisiana.

- 1924.—[LOUISIANA DEPARTMENT OF CONSERVATION.] *Young Birds and Their Bill of Fare*. Louisiana Conservation News, Vol. II, No. 6, June, 1924, p. 7.

Mentions several species of birds found in Louisiana.

- 1924.—[LOUISIANA DEPARTMENT OF CONSERVATION.] *The Rain Crow*. Louisiana Conservation News, Vol. II, No. 7, July, 1924, p. 8.

Describes the Cuckoo as abundant in Louisiana.

- 1924.—[LOUISIANA DEPARTMENT OF CONSERVATION.] *Stop Slaughter of Ducks*. Louisiana Conservation News, Vol. II, No. 9, September, 1924, p. 8.

Mentions the abundance of ducks in Louisiana.

- 1924.—[LOUISIANA DEPARTMENT OF CONSERVATION.] *Feeding Habits of Ducks*. Louisiana Conservation News, Vol. II, No. 10, November, 1924, p. 7.

Includes the feeding habits of the Baldpate, Wigeon, Green-winged Teal, and Mallard.

- 1924.—[LOUISIANA DEPARTMENT OF CONSERVATION.] *How to Call Wild Ducks*. Louisiana Conservation News, Vol. II, No. 10, November, 1924, p. 7.

Mentions several species of ducks found in Louisiana.

- 1924.—OBERHOLSER, HARRY CHURCH. *The Migration of North American Birds, Second Series; XXIV, Ruby-throated, Black-chinned, and Calliope Hummingbirds*. Bird-Lore, Vol. XXVI, No. 2, April 1, 1924, pp. 108-110.

Reference is made to the migration of the Ruby-throated Hummingbird in Louisiana.

- 1924.—REED, CHESTER ALBERT. *North American Birds' Eggs*, April 9, 1924, pp. i-x, 1-356.

Contains several references to nests and eggs of Louisiana birds.

- 1925.—BAILEY, ALFRED MARSHALL. *Delta Ducks*. Outdoor Life, Vol. LV, No. 1, January, 1925, pp. 18-19.

An account of the ducks noted in October in the delta of the Mississippi River.

- 1925.—BAILEY, ALFRED MARSHALL. *The White-winged Scoter in Louisiana*. The Auk, Vol. XLII, No. 3, July 6, 1925, p. 442.

Mentions a specimen taken in Cameron Parish, Louisiana.

- 1925.—BAILEY, ALFRED MARSHALL. *A Day with the Blue Geese*. Field and Stream, Vol. XXX, November, 1925, pp. 34-35.

An account of hunting Blue Geese at Chenier au Tigre, Louisiana.

- 1925.—BENT, ARTHUR CLEVELAND. *Life Histories of North American Wild Fowl, Order Anseres (Part)*. Bulletin of the United States National Museum, No. 130, June 27, 1925, pp. i-x, 1-376, pls. I-LX.

Contains many references to these birds in Louisiana.

- 1925.—COOKE, MAY THACHER. *Spread of the European Starling in North America*. Circular United States Department of Agriculture, No. 336, March, 1925, pp. 1-8, pl. I.

Mentions the occurrence of the Starling 25 miles north of Baton Rouge, Louisiana.

- 1925.—[LLOYD, HOYES.] *Official Canadian Record of Bird-Banding Returns*. The Canadian Field-Naturalist, Vol. XXXIX, No. 1, January, 1925, p. 39; No. 2, February, 1925, p. 55; No. 4, April, 1925, p. 83; No. 5, May, 1925, p. 120; No. 7, October, 1925, p. 169; No. 8, November, 1925, p. 192.

Contains records of banded birds taken in Louisiana.

- 1925.—SCHIÖLER, EILER LEHN. *Danmarks Fugle*, Vol. I, 1925, pp. 1-552, pls. I-XCVIII.

Includes records of the American White-fronted Goose (*Anser albifrons gambelli*) and Lesser Snow Goose from Louisiana.

- 1926.—BAILEY, ALFRED MARSHALL. *Winter Days on the Louisiana Gulf Coast*. Outdoor Life, Vol. LVII, No. 2, February, 1926, pp. 99-100.

An account of hunting and collecting wild fowl about Vermilion Bay, Louisiana.

- 1926.—BLOCHER, ARTHUR. *Large Sets*. The Oologist, Vol. XLIII, No. 4, April, 1926, pp. 49-50.

Mentions eggs of the Southern Bald Eagle from Avery Island, Louisiana.

- 1926.—HOPKINS, EDWARD STILES. *Grand Isle, Louisiana*. The Oologist, Vol. XLIII, No. 5, May, 1926, pp. 65-66.

Observations on the birds noted on a trip to Grand Isle, Louisiana.

- 1926.—OBERHOLSER, HARRY CHURCH. *The Migration of North American Birds, Second Series; XXIX, The*

Swifts. Bird-Lore, Vol. XXVIII, No. 1, February 4, 1926, pp. 9-13.

Reference is made to the migration of the Chimney Swift in Louisiana.

- 1926.—OBERHOLSER, HARRY CHURCH. *The Migration of North American Birds, Second Series; XXXI, The Nighthawks*. Bird-Lore, Vol. XXVIII, No. 4, July 26, 1926, pp. 255-261.

Record is given of the migration of the Nighthawk in Louisiana.

- 1926.—SMITH, EARL R. *Springtime in Dixie Land*. The Oologist, Vol. XLIII, No. 6, June, 1926, pp. 74-78.

Includes a list of birds noted in the spring near New Orleans, Louisiana.

- 1926.—WORTHINGTON, WILLIS WOODFORD; AND TODD, WALTER EDMOND CLYDE. *The Birds of the Choctawhatchee Bay Region of Florida*. The Wilson Bulletin, Vol. XXXVIII, No. 4, December, 1926, pp. 204-229.

Mentions specimens of *Vireo griseus griseus* from Louisiana.

- 1927.—BAILEY, ALFRED MARSHALL. *The Pelicans at Home*. American Forests and Forest Life, Vol. XXXIII, No. 398, February, 1927, pp. 87-92.

An illustrated article on the Eastern Brown Pelicans of the Mud Lumps at the mouth of the Mississippi River.

- 1927.—BAILEY, ALFRED MARSHALL. *Habits of the Purple Gallinule (Ionornis martinicus)*. The Auk, Vol. XLIV, No. 4, October 19, 1927, p. 560.

Comprises comments on the habits of this species as noted at Avery Island, Louisiana.

- 1927.—BENT, ARTHUR CLEVELAND. *Life Histories of North American Marsh Birds, Orders Odontoglossae, Herodiones, and Paludicolae*. Bulletin of the United

States National Museum, No. 135, 1926 [March 11, 1927], pp. i-xii, 1-490, pls. I-XCVIII.

Contains many references to the distribution of these birds in Louisiana.

- 1927.—BENT, ARTHUR CLEVELAND. *Life Histories of North American Shore Birds, Order Limicolae (Part I)*. Bulletin of the United States National Museum, No. 142, December 31, 1927, pp. i-ix, 1-420, pls. I-LV.

Includes many references to the occurrence of these birds in Louisiana.

- 1927.—CORY, CHARLES BARNEY; AND HELLMAYR, CHARLES EDUARD. *Catalogue of Birds of the Americas and the Adjacent Islands in Field Museum of Natural History*. Zoological Series, Field Museum of Natural History, Vol. XIII, Part V, April 11, 1927, pp. i-vi, 1-517.

Includes records of *Sayornis phoebe* from Buras, Louisiana.

- 1927.—FORBUSH, EDWARD HOWE. [*Passenger Pigeon in Louisiana.*] Birds of Massachusetts and Other New England States, Vol. II, December 12, 1927, pp. i-xlix, 1-461, pls. XXXIV-LXII.

Mentions the occurrence of the Passenger Pigeon at Mandeville and Rayne Station, Louisiana.

- 1927.—HOPKINS, EDWARD STILES. *Starlings*. The Oologist, Vol. XLIV, No. 3, March, 1927, p. 39.

Records a male European Starling collected near New Orleans, Louisiana.

- 1927.—HOPKINS, EDWARD STILES. *Albinos*. The Oologist, Vol. XLIV, No. 4, April, 1927, p. 53.

Mentions specimens of an albino Mourning Dove, a Bobwhite, and an observation of a Tree Swallow, from Louisiana.

- 1927.—HOPKINS, EDWARD STILES. *Sage Thrush in Louisiana*. The Oologist, Vol. XLIV, No. 6, June, 1927, p. 72.

Mentions collecting a male specimen of *Oreoscoptes montanus* in Cameron Parish, Louisiana, about 100 yards from the Gulf of Mexico.

- 1927.—LINCOLN, FREDERICK CHARLES. *Returns from Banded Birds, 1923 to 1926*. Technical Bulletin of the United States Department of Agriculture, No. 32, December, 1927, pp. 1-96.

Contains many references to birds banded, and retaken in Louisiana.

- 1927.—[LOUISIANA DEPARTMENT OF CONSERVATION.] *Sea Birds Have Increased on Louisiana Gulf Island Refugees [sic]*. Louisiana Conservation News, Vol. III, No. 1, September-October, 1927, pp. 3-4.

Mentions gulls, terns, skimmers and pelicans in Louisiana.

- 1927.—[LOUISIANA DEPARTMENT OF CONSERVATION.] *Quail and Chickens Make Friends*. Louisiana Conservation News, Vol. III, No. 2, November-December, 1927, p. 5.

Mentions young quails at Eunice, Louisiana.

- 1927.—[LOUISIANA DEPARTMENT OF CONSERVATION.] *To Take Censuses of Country's Waterfowl*. Louisiana Conservation News, Vol. III, No. 1, September-October, 1927, p. 9.

Announcement of Louisiana's part in the United States Biological Survey's waterfowl census.

- 1927.—PEARSON, THOMAS GILBERT. *Glossy Ibises Reported Breeding in Louisiana*. The Auk, Vol. XLIV, No. 3, July 12, 1927, p. 418.

A colony of 1000 ibises nesting at Broussard Lake, Cameron Parish, Louisiana.

- 1927.—SMITH, EARL R. *Grassy Island, Louisiana*. The Oologist, Vol. XLIV, No. 5, May, 1927, pp. 61-66; No. 6, June, 1927, pp. 78-79.

A detailed list of birds noted on a day's trip to Grassy Island, Louisiana.

- 1928.—BAILEY, ALFRED MARSHALL. *Notes on Variations in the White-fronted Goose*. The Condor, Vol. XXX, No. 2, March 15, 1928, p. 165.

This article includes a description of ten specimens of the White-fronted Goose shot in Louisiana.

- 1928.—BAILEY, ALFRED MARSHALL. *Notes on the Winter Birds of Chenier au Tigre, Louisiana*. The Auk, Vol. XLV, No. 3, July 6, 1928, pp. 271-282.

A list with annotations of 88 species of winter birds from Louisiana.

- 1928.—BAILEY, ALFRED MARSHALL. *A Study of the Snowy Herons of the United States*. The Auk, Vol. XLV, No. 4, October 10, 1928, pp. 430-440.

Mentions several specimens of this species from Louisiana.

- 1928.—COOKE, MAY THACHER. *The Spread of the European Starling in North America (to 1928)*. Circular United States Department of Agriculture, No. 40, November, 1928, pp. 1-10, pl. I, Map.

Mentions several records of this species in Louisiana.

- 1928.—HOPKINS, EDWARD STILES. *Bird Migrants on Grand Isle*. Eighth Biennial Report of the Department of Conservation of the State of Louisiana for 1926-1928 [1928, after May 1], pp. 276-283.

A list of 102 species noted on Grand Isle during March, April, and May, 1927.

- 1928.—HOWELL, ARTHUR HOLMES. *Birds of Alabama, Second Edition*, 1928, pp. 1-384, pls. I-VII.

Reference is made to several species of birds in Louisiana.

- 1928.—HOWELL, ARTHUR HOLMES; AND VAN ROSSEM, ADRIAAN JOSEPH. *A Study of the Red-winged Black-birds of Southeastern United States*. The Auk, Vol. XLV, No. 2, April 16, 1928, pp. 155-163.

Includes several specimens of *Agelaius phoeniceus littoralis* from Louisiana.

- 1928.—KALMBACH, EDWIN RICHARD. *The European Starling in the United States*. Farmers' Bulletin United States Department of Agriculture, No. 1571, December, 1928, pp. 1-27.

Mentions the occurrence of the Starling in Louisiana.

- 1928.—LINCOLN, FREDERICK CHARLES. *The Migration of Young North American Herring Gulls*. The Auk, Vol. XLV, No. 1, January 19, 1928, pp. 49-59.

Mentions the capture of several American Herring Gulls in Louisiana.

- 1928.—[LOUISIANA DEPARTMENT OF CONSERVATION.] *Pheasants at State Forests*. Louisiana Conservation News, Vol. III, No. 3, January-February, 1928, p. 8.

Mentions pheasants at Woodworth, 15 miles south of Alexandria, Louisiana.

- 1928.—[LOUISIANA DEPARTMENT OF CONSERVATION.] *Federal Official Studies Wild Waterfowl*. Louisiana Conservation News, Vol. III, No. 4, March-April, 1928, p. 12.

Comments on the United States Biological Survey's waterfowl census in Louisiana.

- 1928.—MOSELEY, EDWIN LINCOLN. *The Abundance of Woodpeckers and Other Birds in Northeastern Louisiana*. The Wilson Bulletin, Vol. XL, No. 2, June, 1928, pp. 115-116.

Includes a number of birds noted in West Carroll Parish, Louisiana, January 1-5, 1928.

- 1928.—OBERHOLSER, HARRY CHURCH. *The Migration of North American Birds, Second Series; XXXVII, Yellow-bellied and Red-breasted Sapsuckers*. Bird-Lore, Vol. XXX, No. 4, July 31, 1928, pp. 253-257.

Record is given of the migration of the Yellow-bellied Sapsucker in Louisiana.

- 1928.—PEARSON, THOMAS GILBERT. *The Rainey Wild Life Sanctuary*. Circular National Association of Audubon Societies, No. 11 [February 15, 1928], pp. 1-8.

Includes a list of 131 birds that have been identified on this sanctuary.

- 1928.—ROBERTSON, JOHN MCBRAIR. *Some Returns of Banded Mallards*. The Condor, Vol. XXX, No. 5, September 28, 1928, p. 321.

Mentions a Louisiana return of a banded Mallard.

- 1928.—STRECKER, JOHN KERN. *Notes on Summer Birds of the Northwestern Parishes of Louisiana*. Contributions from the Baylor University Museum, No. 14, July 2, 1928, pp. 1-13.

Includes a list of 82 species of birds observed in Caddo, Bossier, and De Soto parishes in April, August, and September, 1925; April and September, 1926; April and May, 1927; and June, 1928.

- 1929.—BAILEY, ALFRED MARSHALL. *The Fall Flight of Geese to Louisiana*. The Auk, Vol. XLVI, No. 2, April 11, 1929, pp. 225-226.

An account of several species of geese noted at the mouth of the Mississippi River in Louisiana.

- 1929.—BAILEY, ALFRED MARSHALL. *Wings along the Gulf*. Natural History, Vol. XXIX, No. 3, May-June, 1929, pp. 227-240.

Includes accounts of the birds that inhabit the swamps and islands of the Louisiana coast—herons, egrets, pelicans, terns, geese, gulls, and others.

- 1929.—BENT, ARTHUR CLEVELAND. *Life Histories of North American Shore Birds, Order Limicolae (Part 2)*. Bulletin of the United States National Museum, No. 146, March 27, 1929, pp. i-ix, 1-412, pls. LXVI.

Contains many references to the occurrence of these birds in Louisiana.

- 1929.—FRIEDMANN, HERBERT. *The Cowbirds*. April 10, 1929, pp. i-xvii, 1-421, pls. I-XXVIII.

Contains references to the parasitism of cowbirds in Louisiana.

- 1929.—[LOUISIANA DEPARTMENT OF CONSERVATION.] *Annual Study of Bird Migration on Grand Isle Recently Completed*. Louisiana Conservation News, Vol. 4, No. 3, May-June, 1929, pp. 8, 16.

Includes a list of birds collected on Grand Isle, Louisiana, in April.

- 1929.—[LOUISIANA DEPARTMENT OF CONSERVATION.] *Numbered Bands to Trace Sea Birds of State to Their Winter Homes*. Louisiana Conservation News, Vol. IV, No. 4, July-August, 1929, pp. 10, 11.

An account of bird banding in Louisiana.

- 1929.—LOUISIANA DEPARTMENT OF CONSERVATION. *Birds of Louisiana*. Ninth Biennial Report of the Department of Conservation of the State of Louisiana for 1928-1929 (1929), pp. 103-118.

A list of 252 species of birds noted in Louisiana.

- 1929.—NELSON, EDWARD WILLIAM. *The Whooping Crane Continues to Visit Louisiana*. The Condor, Vol. XXXI, No. 4, July 15, 1929, pp. 146-147.

An account of the wintering of the Whooping Crane in Louisiana.

- 1930.—[BAILEY, ALFRED MARSHALL.] *Louisiana Field Trip*. Program of Activities of the Chicago Academy of Sciences, Vol. 1, No. 4, October, 1930 [p. 42].

Mentions the collecting of a Derby Flycatcher on Chenier au Tigre, and the observing of a few other species on the Louisiana Gulf Coast.

- 1930.—BANGS, OUTRAM. *Types of Birds now in the Museum of Comparative Zoölogy*. Bulletin of the Museum of Comparative Zoölogy, Vol. LXX, No. 4, March, 1930, pp. 147-426.

Lists the types of *Querquedula discors albinucha* and *Richmondia cardinalis magnirostris* from Louisiana.

- 1930.—LOUISIANA DEPARTMENT OF CONSERVATION, BUREAU OF EDUCATION. *Louisiana Bird Primer*, 1930, pp. 1-46.

Contains a list of Louisiana birds.

- 1930.—LOWERY, GEORGE HINES, JR. *The Starling in Northern Louisiana*. The Wilson Bulletin, Vol. XLII, No. 3, September, 1930, p. 213.

Mentions a flock of about 100 European Starlings noted near Monroe, Louisiana.

- 1930.—MCILHENNY, EDWARD AVERY. *Bird-Banding in Louisiana Discloses Interesting Returns*. Louisiana Conservation Review, Vol. I, No. 3, December, 1930, p. 10.

An account of some birds banded at Avery Island, Louisiana, and where they were taken.

- 1930.—TABER, WILLIAM BREWSTER, JR. *The Fall Migration of Mourning Doves*. The Wilson Bulletin, Vol. XLII, No. 1, March, 1930, pp. 17-28.

Mentions the recovery in Louisiana of several banded Mourning Doves.

- 1931.—BAILEY, ALFRED MARSHALL; AND WRIGHT, EARL GROVER. *Birds of Southern Louisiana*. The Wilson Bulletin, Vol. XLIII, No. 2, June, 1931, pp. 114-142; No. 3, September, 1931, pp. 190-219.

A list of 215 species and subspecies of birds noted on the islands and territory bordering the Gulf of Mexico in Louisiana.

- 1931.—FOSTER, MARION HOPE. *Propagation of Pheasants in Louisiana*. Louisiana Conservation Review, Vol. I, No. 8, May, 1931, pp. 7-9, 40.

Information concerning the propagation of pheasants in Louisiana.

- 1931.—GODSEY, TOWNSEND. *Winter Feeding of Birds*. Louisiana Conservation Review, Vol. I, No. 5, February, 1931, pp. 3-4, 30.

Contains photographs of water birds in Louisiana.

- 1931.—HOPKINS, EDWARD STILES. *Summary of Bird Observation and Collection (1930-1931) for the Department's Museum under the Direction of the Wild Life Division*. Tenth Biennial Report of the Department of Conservation of the State of Louisiana for 1930-1931 (1931), pp. 325-333.

A list of 162 species of birds noted during this period in Louisiana.

- 1931.—LINDSEY, HOOKER OLIVER. *Where is Home*. Aviculture, Series 2, Vol. III, No. 1, January, 1931, pp. 2-6.

Includes a list of 103 species of birds from Grand Isle, Louisiana.

- 1931.—[LLOYD, HOYES.] *Official Canadian Record of Bird-Banding Returns*. Canadian Field Naturalist, Vol. XLV, No. 6, 1931, pp. 150-154.

Includes a few banding records from Louisiana.

- 1931.—LOUISIANA DEPARTMENT OF CONSERVATION. *Wild Life Resources*. Bulletin of the Louisiana Department of Conservation, No. 13, 1931, pp. 58-79.

Includes a short account of some of the important game birds of Louisiana.

- 1931.—[LOUISIANA DEPARTMENT OF CONSERVATION.] *Hunting in Louisiana*. Louisiana Conservation Review, Vol. I, No. 4, January, 1931, pp. 14-15, 26, 28.

Contains a list of the game birds in Louisiana.

- 1931.—LOUISIANA DEPARTMENT OF CONSERVATION. *The Birds of Louisiana*. Bulletin of the Louisiana Department of Conservation, No. 20, December, 1931, pp. 1-598, pls. I-VII.

This is a popular account of the 353 species and subspecies of birds given as occurring in Louisiana.

- 1931.—LOUISIANA DEPARTMENT OF CONSERVATION: BUREAU OF EDUCATION. *Louisiana Bird Primer, Revised*, 1931, pp. 1-68.

Contains a list of 252 kinds of birds noted in Louisiana.

- 1931.—LOWERY, GEORGE HINES, JR. *Bird-Lore's Thirty-first Christmas Census; Monroe, Louisiana*. *Bird-Lore*, Vol. XXXIII, No. 1, February 2, 1931, pp. 69-70.

A list of 59 species of birds noted at Monroe, Louisiana, December 21, 1930.

- 1931.—LOWERY, GEORGE HINES, JR. *Notes on Spring Migration through Louisiana*. *Bird-Lore*, Vol. XXXIII, No. 5, October 3, 1931, p. 322.

A detailed account of the birds noted during the spring migration of 1931 in Louisiana.

- 1931.—LOWERY, GEORGE HINES, JR. *Birds of North Louisiana*. *Bulletin of the Louisiana Polytechnic Institute*, Vol. XXIX, No. 4, November, 1931, pp. 1-52.

A list of 252 species of birds recorded from northern Louisiana.

- 1931.—LOWERY, GEORGE HINES, JR. *A Probable Extension of the Breeding Range of the Prairie Warbler*. *The Wilson Bulletin*, Vol. XLIII, No. 4, December, 1931, p. 308.

A resumé of observations of this species in June in the region about Monroe, Louisiana.

- 1931.—WRIGHT, EARL GROVER; AND BAILEY, ALFRED MARSHALL. *Two Species of Birds New to Louisiana*. *The Auk*, Vol. XLVIII, No. 1, January 4, 1931, p. 123.

Mentions a Derby Flycatcher taken at Chenier au Tigre, and three male Howell Seaside Sparrows collected from small islands off the eastern coast of Louisiana.

- 1932.—BAILEY, ALFRED MARSHALL. *The Snowy Egret*. American Forests, Vol. XXXVIII, No. 1, January, 1932, pp. 10-13, 46.

An account of the breeding habits of this species at Avery Island, Louisiana.

- 1932.—BAILEY, ALFRED MARSHALL. *The Snowy Egret*. Louisiana Conservation Review, Vol. II, No. 6, March, 1932, pp. 3-6.

A description of the nesting habits of the Snowy Egret as noted at Avery Island.

- 1932.—BENT, ARTHUR CLEVELAND. *Life Histories of North American Gallinaceous Birds, Orders Galliformes and Columbiformes*. Bulletin of the United States National Museum, No. 162, May 25, 1932, pp. i-xi, 1-490, pls. XCIII.

Contains references to the distribution of these birds in Louisiana.

- 1932.—BIRD, ALDINE R. *The Ivory-bill is still King*. American Forests, Vol. XXXVIII, No. 12, December, 1932, pp. 634-635; 667.

Mentions a specimen of this species taken in Madison Parish, Louisiana, and describes this bird's nesting habits.

- 1932.—COOGAN, MARGARET ALBERTINE. *The Ivory-billed Woodpecker*. Louisiana Conservation Review, Vol. II, No. 10, July, 1932, p. 3.

Some notes on this species in Louisiana.

- 1932.—COPE, EDMUND BERNARD. *The Wild Turkey: Its Hunting and Future in Louisiana*. Louisiana Conservation Review, Vol. II, No. 10, July, 1932, pp. 5-7, 32-33.

An account of the history, propagation, and habits of this bird in Louisiana.

- 1932.—DURAND, FORREST VICKNAIR. *Observations on the Loggerhead Shrike in Louisiana*. Louisiana Con-

servation Review, Vol. II, No. 7, April, 1932, pp. 29-30, 40.

An account of the general habits, the nesting, and food habits of the Loggerhead Shrike in Louisiana.

- 1932.—HICKS, LAWRENCE EMERSON: AND HICKS, THYRA JANE. *Bird-Lore's Thirty-second Christmas Census; Lake Providence, La.* Bird-Lore, Vol. XXXIV, No. 1, February 2, 1932, pp. 68-69.

A list of birds observed at Lake Providence, Louisiana.

- 1932.—HICKS, LAWRENCE EMERSON. *Bird-Lore's Thirty-second Christmas Census; New Iberia, La.* Bird-Lore, Vol. XXXIV, No. 1, February 2, 1932, pp. 69-70.

This is a list of birds observed at New Iberia, Louisiana.

- 1932.—HOPKINS, EDWARD STILES. *A Visit to Our Bird Islands.* Louisiana Conservation Review, Vol. II, No. 10, July, 1932, pp. 18-23, 38-39.

A list of 163 species of birds observed during 1930 and 1931 in Louisiana.

- 1932.—LAFLEUR, JOSEPH DELTA. *Bird-Banding.* Louisiana Conservation Review, Vol. II, No. 5, 1932, pp. 6-7, 23.

A notice of the capture of a banded Double-crested Cormorant in Louisiana.

- 1932.—LOWERY, GEORGE HINES, JR. *Bird-Lore's Thirty-second Christmas Census; Monroe, La.* Bird-Lore, Vol. XXXIV, No. 1, February 2, 1932, p. 69.

Consists of a list of birds noted at Monroe, Louisiana.

- 1932.—LOWERY, GEORGE HINES, JR. *A New Hawk for the Louisiana List.* The Auk, XLIX, No. 4, October 4, 1932, p. 463.

Records *Buteo borealis calurus* from Ruston, Louisiana; but the specimens now prove to belong to the Eastern Red-tailed Hawk.

- 1932.—MCLHENNY, EDWARD AVERY. *The Blue Goose in Its Winter Home*. The Auk, Vol. XLIX, No. 3, July 2, 1932, pp. 279-306, pls. IX-XI.

Mentions several species of birds found in Louisiana.

- 1932.—P[EARSON], THOMAS G[ILBERT]. *Blue Geese in Louisiana*. Bird-Lore, Vol. XXIV, No. 1, February 2, 1932, p. 112.

Mentions several birds found in Louisiana, including Blue Geese.

- 1932.—ROBERTS, THOMAS SADLER. *The Birds of Minnesota*. Vol. I, June 6, 1932, pp. i-xxii, 1-691, pls. I-XLIX; Vol. II, June 6, 1932, pp. i-xv, 1-821, pls. L-XC.

Contains a number of references to birds in Louisiana.

- 1932.—SHIRAS, GEORGE, THIRD. *Wild Life of the Atlantic and Gulf Coasts*. The National Geographic Magazine, Vol. LXII, No. 3, September, 1932, pp. 261-309; 63 illustrations.

Contains a short account of the Rainey Wild Life Sanctuary of Louisiana, and the habits of the Blue Goose.

- 1932.—SONDEREGGER, VICTOR HUGO. *Occurrence of the Wild Turkey in Louisiana*. Louisiana Conservation Review, Vol. II, No. 10, July, 1932, pp. 8-9, 37.

An account of the present distribution of this species in Louisiana.

- 1932.—STRABALA, "TONY" [=LONU] BALTHASAR; AND STEWART, PAUL ALVA. *Bird-Lore's Thirty-second Christmas Census; Paradis, La.* Bird-Lore, Vol. XXXIV, No. 1, February 2, 1932, p. 70.

Consists of a list of birds observed at Paradis, Louisiana.

- 1933.—[ANONYMOUS.] *Rare Ivory-billed Woodpeckers Found in Madison Parish Trip*. [New Orleans] Times-Picayune, December 29, 1933.

Report of the finding of this bird in Madison Parish, Louisiana.

- 1933.—BRODKORB, PIERCE. *Remarks on the Genus Limnodromus Wied.* Proceedings of the Biological Society of Washington, Vol. XLVI, June 30, 1933, pp. 123-128.

Mentions specimens of *Limnodromus griseus scolopaceus* from Cameron Parish, Louisiana.

- 1933.—CAMPBELL, JOHN SHERMAN. *American Redstart Breeding in North Louisiana.* The Auk, Vol. L, No. 4, October 11, 1933, pp. 441-442.

Evidence of the breeding of this species in northern Louisiana is presented in this article.

- 1933.—DASPIT, ARMAND PIERRE. *Annual Report of Fur and Wild Life Division, Year 1932.* Louisiana Conservation Review, Vol. III, No. 3, July, 1933, pp. 29-32.

Includes waterfowl data and records of some of the banded birds killed in Louisiana.

- 1933.—FRIEDMANN, HERBERT. *Critical Notes on American Vultures.* Proceedings of the Biological Society of Washington, Vol. XLVI, October 26, 1933, pp. 187-190.

Mentions the distribution of *Cathartes aura septentrionalis* as including Louisiana.

- 1933.—GATES, WILLIAM HAZEN. *Hailstone Damage to Birds.* Science, New Series, Vol. LXXVIII, No. 2021, September 22, 1933, pp. 263, 264.

Mentions a number of species of birds killed by a hailstorm on April 20, 1933, at Baton Rouge, Louisiana.

- 1933.—[GOWANLOCH, JAMES NELSON.] *New Bird Is Discovered in Louisiana.* Louisiana Conservation Review, Vol. III, No. 3, July, 1933, p. 32.

A sight record of *Sterna anaethetus melanoptera* in Louisiana is given; also the first breeding record of *Sterna fuscata fuscata* for the State.

- 1933.—GOWANLOCH, JAMES NELSON. *Department of Conservation to Receive Valuable Land*. Louisiana Conservation Review, Vol. III, No. 3, July, 1933, pp. 35-37.

An account of the breeding home of several species of birds in Louisiana.

- 1933.—GOWANLOCH, JAMES NELSON. *Conservation alone Can Prevent "Last Post" for Wild Life*. Louisiana Conservation Review, Vol. III, No. 4, October, 1933, pp. 18-20, 40.

A brief statement of the present and past status of several species of birds in Louisiana.

- 1933.—GOWANLOCH, JAMES NELSON. *Louisiana Birds for Hunters and Others*. Louisiana Conservation Review, Vol. III, No. 4, October, 1933, pp. 47-48.

Mentions several unusual species of birds that are found in Louisiana. Contains also a photograph of the Eastern Sooty Tern at her nest on Curlew Island, Chandeleur Sound, Louisiana, June 5, 1933.

- 1933.—GUILLOT, JAMES PERRIER. *New Orleans Conservation Center of the Southland*. Louisiana Conservation Review, Vol. III, No. 4, October, 1933, pp. 13-17.

Mentions Louisiana's game preserves and some of the birds that frequent them.

- 1933.—HOLT, ERNEST GOLSAN. *A Record Colony of Yellow-crowned Night Herons*. The Auk, Vol. L, No. 3, July, 1933, pp. 350-351.

Description of a heron colony at Gros-bec Lake in Pointe Coupee Parish, Louisiana.

- 1933.—HOLT, ERNEST GOLSAN. *Definite Breeding of the Glossy Ibis in Louisiana*. The Auk, Vol. L, No. 3, July 6, 1933, pp. 351-352.

An account of the breeding of the Eastern Glossy Ibis in Cameron Parish, Louisiana.

- 1933.—HOLT, ERNEST GOLSAN. *Golden Eagle in Louisiana*. The Auk, Vol. L, No. 3, July 6, 1933, p. 355.

Some records of this bird in Louisiana are noted.

- 1933.—LINCOLN, FREDERICK CHARLES. *State Distribution of Returns from Banded Ducks, Third Paper—Louisiana, Maine, Massachusetts, Michigan, Minnesota, and Missouri*. Bird Banding, Vol. IV, No. 2, April, 1933, pp. 88-89.

Mentions ducks banded in Louisiana.

- 1933.—LOWERY, GEORGE HINES, JR. *Lapland Longspur: An Addition to the Louisiana List*. The Auk, Vol. L, No. 2, April 10, 1933, pp. 226-227.

Mentions taking a specimen near Monroe, Louisiana, with other records of occurrence of this bird in the same portion of the State.

- 1933.—MCILHENNY, EDWARD AVERY. *Golden Eagle (Aquila chrysaëtos canadensis) in Louisiana*. The Auk, Vol. L, No. 4, October 11, 1933, pp. 431-432.

Comments on the records of the Golden Eagle in Louisiana.

- 1933.—MCILHENNY, EDWARD AVERY. *Robins Nesting in extreme Southern Louisiana*. The Auk, Vol. L, No. 4, October 11, 1933, pp. 439-440.

A nest with eggs found in Louisiana.

- 1933.—OBERHOLSER, HARRY CHURCH. *Waterfowl in Louisiana*. Louisiana Conservation Review, Vol. III, No. 2, April, 1933, pp. 13-15.

An account of the present waterfowl conditions in Louisiana.

- 1933.—PERKINS, SAMUEL ELLIOTT, THIRD. *Indiana Bronzed Grackle Migration*. Indiana Audubon Year Book for 1933 [August, 1933], pp. 40-47.

Includes records of birds recovered in Louisiana.

- 1933.—REDINGTON, PAUL GOODWIN. *Keep Marshlands for Wild Fowl*. Louisiana Conservation Review, Vol. III, No. 4, October, 1933, pp. 3-6, 38.

Mentions wild geese and ducks in the Louisiana wild life sanctuaries.

- 1933.—TEST, LOUIS AGASSIZ. *Returns from Mourning Doves in Indiana*. Indiana Audubon Year Book, for 1933 [August, 1933], pp. 68-71.

Mentions two Louisiana records.

- 1933.—THOMPSON, BENJAMIN HUNTER. *History and Present Status of the Breeding Colonies of the White Pelican (*Pelecanus erythrorhynchos*) in the United States*. Occasional Paper, Wild Life Division National Park Service, No. 1, August, 1933, pp. [1-10] 1-85.

Includes records of the White Pelican in Louisiana.

- 1934.—BAILEY, ALFRED MARSHALL. *Additional Notes on the Wintering Birds of Chenier au Tigre, Louisiana*. The Auk, Vol. LI, No. 3, June 28, 1934, pp. 398-400.

This article contains a number of winter bird records from southern Louisiana.

- 1934.—CAMPBELL, JOHN SHERMAN. *The Golden Eagle in Northern Louisiana*. The Wilson Bulletin, Vol. XLVI, No. 2, June, 1934, p. 116.

Records the occurrence of the Golden Eagle near Pioneer, Louisiana.

- 1934.—CAMPBELL, JOHN SHERMAN. *Golden Eagle in North Louisiana*. The Auk, Vol. LI, No. 3, June 28, 1934, pp. 370-371.

Records the occurrence of a Golden Eagle near Pioneer, Louisiana.

- 1934.—CAMPBELL, JOHN SHERMAN. *Western House Wren in Bienville Parish, Louisiana*. The Auk, Vol. LI, No. 1, January 8, 1934, p. 88.

Gives a few records of the Western House Wren in Bienville Parish, Louisiana.

- 1934.—CAMPBELL, JOHN SHERMAN; KUHN, JOSEPH JENKINS; LOWERY, GEORGE HINES, SR.; AND LOWERY,

GEORGE HINES, JR. *Bird-Lore's Thirty - fourth Christmas Census; Tallulah, La.* Bird-Lore, Vol. XXXVI, No. 1, February 1, 1934, p. 55.

A list of winter birds observed at Tallulah, Louisiana, in December, 1933.

- 1934.—COTTMAN, MRS. ESTELLE VERJIE. *The Relation of Education to Conservation.* Bulletin of the Louisiana Department of Conservation, No. 25, 1934, pp. 95-104.

Mentions the Ivory-billed Woodpecker and several other birds from Louisiana.

- 1934.—DASPIT, ARMAND PIERRE. *Report of the Fur and Wild Life Division.* Eleventh Biennial Report of the Department of Conservation, State of Louisiana, 1932-1933 (1934), pp. 249-282.

Includes an article on the Birds of Louisiana, also a record of some banded birds that were killed in Louisiana.

- 1934.—EATON, RICHARD JEFFERSON. *The Migratory Movements of Certain Colonies of Herring Gulls in Eastern North America.* Bird-Banding, Vol. V, No. 2, April, 1934, pp. 70-84.

Includes one record of the recovery of an American Herring Gull at "Chandeleur", Louisiana.

- 1934.—GUILLOT, JAMES PERRIER. *Our Louisiana Wild Life and Sanctuaries—A National Asset.* Bulletin of the Louisiana Department of Conservation, No. 25, 1934, pp. 63-79.

Notes a few birds from Louisiana.

- 1934.—HOLT, ERNEST GOLSAN. *Playing Big Brother to the Birds. (From Rock-bound Maine to Mesquite-grown Texas).* Natural History, Volume XXXIV, No. 1, January-February, 1934, pp. 53-66.

Mentions the occurrence of the Yellow-crowned Night Heron, Blue Goose, Brown Pelican, Snow Goose, and Roseate Spoonbill in Louisiana.

- 1934.—KALMBACH, EDWIN RICHARD. *Field Observation in Economic Ornithology*. The Wilson Bulletin, Vol. XLVI, No. 2, June, 1934, pp. 73-90.

A discussion of the food of the Red-winged Blackbird as found in southwestern Louisiana.

- 1934.—[LOUISIANA DEPARTMENT OF CONSERVATION.] *Know Your Bird Neighbors*. Louisiana Conservation Review, Vol. IV, No. 3, July, 1934, p. 2.

Mentions the nesting of the Blue Goose in Baffin Land and Southampton Island, also the nesting of terns and pelicans in the Chandeleur Islands.

- 1934.—LOWERY, GEORGE HINES, JR. *The Alabama Towhee, an Addition to the Louisiana List*. The Auk, Vol. LI, No. 1, January 8, 1934, pp. 92-93.

A record of the Alabama Towhee, from a specimen taken at Baton Rouge, Louisiana.

- 1934.—LOWERY, GEORGE HINES, JR. *Additional Notes on the Birds of Louisiana*. The Auk, Vol. LI, No. 1, January 8, 1934, p. 99.

Gives records of several birds for Louisiana.

- 1934.—MANNERS, GRACE. *The Great Migration of Birds Begins in Spring at Grand Isle*. Louisiana Conservation Review, Vol. IV, No. 2, April, 1934, pp. 36-38.

Mentions a number of species of birds seen at Grand Isle in migration.

- 1934.—MCILHENNY, EDWARD AVERY. *Twenty-two Years of Banding Migratory Wild Fowl at Avery Island, Louisiana*. Louisiana Conservation Review, Vol. IV, No. 2, April, 1934, pp. 3-8.

Mentions a number of species of birds banded at Avery Island, Louisiana.

- 1934.—MCILHENNY, EDWARD AVERY. *Twenty-two Years of Banding Migratory Wild Fowl at Avery Island, Louisiana*. The Auk, Vol. LI, No. 3, June 28, 1934, pp. 328-337.

Comprises a list of the waterfowl banded from January, 1912, to December 31, 1933; and the returns from these in all parts of North America.

- 1934.—MCILHENNY, EDWARD AVERY. *Bird City*. 1934 (previous to Aug. 16), pp. 1-203; pls. [I-XCVIII.]

Mentions several species of birds as occurring in Louisiana.

- 1934.—MCILHENNY, EDWARD AVERY. *Louisiana Wild Life Conservation*. Bulletin of the Louisiana Department of Conservation, No. 25, 1934, pp. 175-186.

Mentions the occurrence of several species of birds in Louisiana.

- 1934.—MYERS, HU BLAKEMORE; AND GOWANLOCH, JAMES NELSON. *Report of the Bureau of Scientific Research and Statistics*. Eleventh Biennial Report of the Department of Conservation, State of Louisiana, 1932-1933 (1934), pp. 63-127.

Includes an account of an ornithological survey made of the State of Louisiana in 1933, with records of Eastern Sooty Tern and other birds.

- 1934.—OBERHOLSER, HARRY CHURCH. *A Revision of the North American House Wrens*. The Ohio Journal of Science, Vol. XXXIV, No. 2, March 25, 1934, pp. 86-96.

Includes Louisiana records of all three subspecies of the North American House Wren.

- 1934.—OTERO, RICHARD BLACHE. *Report of the Bureau of Education*. Eleventh Biennial Report of the Department of Conservation, State of Louisiana, 1932-1933 (1934), pp. 23-28.

Records a specimen of the Ivory-billed Woodpecker and of the Eastern Sooty Tern from Louisiana.

- 1934.—WARD, WILLIAM BETHEA. *Owls on a Louisiana Highway*. The Auk, Vol. LI, No. 2, April 4, 1934, p. 236.

Mentions the occurrence of the Great Horned Owl and Florida Barred Owl in Louisiana.

- 1935.—[ANONYMOUS.] *The Rainey Wild Life Sanctuary.* Bird-Lore, XXXVII, No. 2, March 30, 1935, pp. 114-118.

Mentions great flocks of Lesser Snow Geese and Blue Geese, also several species of ducks and other birds found in this sanctuary.

- 1935.—[BAILEY, ALFRED MARSHALL.] *Photographic Expedition Successful.* Program of Activities of the Chicago Academy of Sciences, Vol. VI, No. 1, January 2, 1935, p. 3.

Wild Turkeys reported plentiful in northern Louisiana.

- 1935.—[BAILEY, ALFRED MARSHALL.] *Bird City.* Program of Activities of the Chicago Academy of Sciences, Vol. VI, No. 1, January 2, 1935, p. 7.

A review of 'Bird City' by Edward Avery McIlhenny, in which he mentioned the occurrence of egrets in Louisiana.

- 1935.—CAMPBELL, SAM HOUSTON; AND CAMPBELL, JOHN SHERMAN. *Bird-Lore's Thirty-fifth Christmas Census; Oak Grove, La.* Bird-Lore, Vol. XXXVII, No. 1, February 1, 1935, p. 60.

A list of 67 species (13,969 individuals) observed at Oak Grove, Louisiana, December 23, 1934.

- 1935.—CHAPMAN, FRANK MICHLER. *Further Remarks on the Relationships of the Grackles of the Subgenus Quiscalus.* The Auk, Vol. LII, No. 1, January 8, 1935, pp. 21-29.

Records specimens of the Florida and Purple Grackles from southern Louisiana.

- 1935.—CHAPMAN, FRANK MICHLER. *Quiscalus quiscula in Louisiana.* The Auk, Vol. LII, No. 4, October 11, 1935, pp. 418-420.

Mentions the occurrence of the Purple Grackle at several localities in southern Louisiana.

- 1935.—DAIGRE, AMBROSE. *Some Helpful Suggestions to Birdhouse Builders.* Louisiana Conservation Review, Vol. IV, No. 5, January, 1935, pp. 47-48.

Notes on the Purple Martin and the English Sparrow in Louisiana.

- 1935.—DAIGRE, AMBROSE. *Why Birds Fear Man*. Louisiana Conservation Review, Vol. IV, No. 6, April, 1935, pp. 46-47.

Mentions the Lesser Scaup Duck and swans from Louisiana.

- 1935.—DAIGRE, AMBROSE. *A Rare Bird With Rare Characteristics*. Louisiana Conservation Review, Vol. IV, No. 7, July, 1935, pp. 31-32.

Records the capture of a specimen of the Groove-billed Ani at Grand Isle, Louisiana.

- 1935.—DARLING, JAY NORWOOD. *The Wildlife Situation in the United States and Its Remedies*. Louisiana Conservation Review, Vol. IV, No. 6, April, 1935, pp. 5-8, 48.

Contains pictures of ducks and geese from Louisiana.

- 1935.—DICKINSON, FRANCIS REYNOLDS. *The Bayous of the Tensas*. Program of Activities of the Chicago Academy of Sciences, Vol. VI, No. 1, January 2, 1935, pp. 10, 11.

Reports a few birds from northeastern Louisiana.

- 1935.—[LOUISIANA DEPARTMENT OF CONSERVATION.] *New Light on Duck Behavior*. Louisiana Conservation Review, Vol. IV, No. 6, March, 1935, pp. 1, 24.

Mentions the recovery of birds in Louisiana that had been banded in Nebraska.

- 1935.—FLANAGAN, VAL. *Hunting and Fishing*. The Times-Picayune-New Orleans States, November 24, 1935.

Includes notes on hunting of migratory wild fowl in 1935.

- 1935.—GOWANLOCH, JAMES NELSON. *The Gulls, Terns, and Skimmers of Louisiana. Part One*. Louisiana

Conservation Review, Vol. IV, No. 6, April, 1935, pp. 11-17.

Discusses several species of gulls and terns that are found in Louisiana.

- 1935.—GOWANLOCH, JAMES NELSON. *The Gulls, Terns, and Skimmers of Louisiana. Part Two.* Louisiana Conservation Review, Vol. IV, No. 8, October, 1935, pp. 28-31.

An account of three species of gulls found in Louisiana.

- 1935.—GUILLOT, JAMES PERRIER. *New Orleans—Conservation Center of the Southland.* Bulletin of the Louisiana Department of Conservation, No. 25, 1934 (1935), pp. 11-22.

Calls attention to the game preserves in Louisiana, and to the fact that they harbor many migratory waterfowl.

- 1935.—HOLT, ERNEST GOLSAN. *Golden Eagle in Louisiana: A Correction and a Reaffirmation of a Positive Record.* The Auk, Vol. LII, No. 2, April 13, 1935, p. 183.

Discusses a record of the Golden Eagle in Louisiana.

- 1935.—KEEFE, WILLIAM MCG. *Geese, Geese, Geese.* The Times-Picayune-New Orleans States, November 24, 1935.

Mentions the thousands of geese along the Louisiana coast.

- 1935.—[LOUISIANA DEPARTMENT OF CONSERVATION.] *New Light on Duck Behavior.* Louisiana Conservation Review, Vol. IV, No. 6, April, 1935, pp. 1, 24.

Records the recovery of Mallards in Louisiana which had been banded as ducklings in Nebraska.

- 1935.—LOW, SETH HASKELL. *Notes on the Survival, Winter Distribution, and Migration Speed of Eastern Mourning Doves.* Bird Banding, Vol. VI, No. 2, April, 1935, pp. 61-65.

Records the taking of Mourning Doves at Geismar and Echo, Louisiana.

- 1935.—LOWERY, GEORGE HINES, JR. *The Ivory-billed Woodpecker in Louisiana*. Proceedings of the Louisiana Academy of Sciences, Vol. II, No. 1, March, 1935, pp. 59-60.

Records the Ivory-billed Woodpeckers and a few other birds from Louisiana.

- 1935.—LOWERY, MRS. GEORGE HINES, SR.; LOWERY, GEORGE HINES, SR.; LOWERY, GEORGE HINES, JR.; MCCORMACK, JOE; REITZELL, JOHN; AND STUBBS, BARRY. *Bird-Lore's Thirty-fifth Christmas Census; Monroe, La.* Bird-Lore, Vol. XXXVII, No. 1, January-February, 1935, p. 59.

A list of 67 species and subspecies observed at Monroe, Louisiana, December 27, 1934.

- 1935.—MARSTON, BULOW W. *Tensas River*. Louisiana Conservation Review, Vol. IV, No. 6, April, 1935, pp. 3-4, 24.

Mentions seeing Wild Turkeys and Mallards in Louisiana.

- 1935.—MCLHENNY, EDWARD AVERY. *The Vermilion Flycatcher in Louisiana*. The Auk, Vol. LII, No. 2, April 13, 1935, p. 187.

Note on a specimen of this species from Avery Island, Louisiana.

- 1935.—SHIRAS, GEORGE, THIRD. *Wild Fowl and Animal Life of the Louisiana Marshes*. Hunting Wild Life with Camera and Flashlight, Vol. II, November 7, 1935, pp. 229-244.

Mentions several species of wild fowl as occurring in Louisiana.

- 1936.—[ANONYMOUS,] *Brown Pelicans, Falsely Accused, Killed in Texas*. The Seattle Wren, Vol. III, No. 3, April, 1936, pp. 3-4.

Mentions the occurrence of Yellow-crowned Night Herons in the Atchafalaya River Swamp, Louisiana.

- 1936.—BRAND, ALBERT RICH. *Bird Voices in the Southland*. Natural History, Vol. 37, No. 2, February, 1936, pp. 127-138.

Mentions birds from Louisiana.

- 1936.—CHAPMAN, FRANK MICHLER. *Further Remarks on Quiscalus with a Report on Additional Specimens from Louisiana*. The Auk, Vol. LIII, No. 4, October 8, 1936, pp. 405-417.

Includes additional records of specimens of the genus *Quiscalus* from Louisiana.

- 1936.—CRYSTAL, JOHN ADLER. *Bird Banding*. Bulletin Bowdoin College, Brunswick, Maine, No. 1, February 1, 1936, pp. 12-14.

Includes a few records of birds banded in Canada, and recovered in Louisiana.

- 1936.—DAIGRE, AMBROSE. *Whooping Crane Receives Warm Welcome in Our Exhibit*. Louisiana Conservation Review, Vol. V, No. 1, January 25, 1936, pp. 31-32.

Record of a Whooping Crane taken near Gueydan, Vermilion Parish, Louisiana.

- 1936.—DAIGRE, AMBROSE. *Inca Dove is Added to the Louisiana Avifauna*. Louisiana Conservation Review, Vol. V, No. 2, April, 1936, pp. 27-28.

Gives the first record of the Inca Dove for Louisiana, and mentions the occurrence of the Passenger Pigeon in the State.

- 1936.—DAIGRE, AMBROSE. *Report of the Taxidermic Division*. Twelfth Biennial Report of the Department of Conservation, State of Louisiana, for 1934-35 [June, 1936], pp. 291-295.

Includes records of specimens of birds taken in Louisiana.

- 1936.—[DAIGRE, AMBROSE.] *Mallard-Pintail Hybrid*. Louisiana Conservation Review, Vol. 5, No. 3, July, 1936, p. 25.

Picture of a specimen of a hybrid between the Common Mallard and the American Pintail, taken at Avoca Island, Louisiana.

- 1936.—[DAIGRE, AMBROSE.] *The Whooping Crane (Grus americana.)* Louisiana Conservation Review, Vol. V, No. 3, July, 1936, p. 29.

Picture of a specimen of Whooping Crane taken at Gueydan, Louisiana.

- 1936.—DAIGRE, AMBROSE. *Bird Migration at Grand Isle*. Louisiana Conservation Review, Vol. V, No. 4, October, 1936, pp. 59-61.

Mentions a number of birds that occur in Louisiana.

- 1936.—DASPIT, ARMAND P. *Report of the Fur and Wildlife Division*. Twelfth Biennial Report of the Department of Conservation, State of Louisiana, for 1934-35 [June, 1936], pp. 261-290.

Mentions the presence of large numbers of geese and ducks in Louisiana.

- 1936.—FORD, EDWARD RUSSELL. *The Western Pigeon Hawk in Louisiana, Florida and Illinois*. The Auk, Vol. LIII, No. 2, April 9, 1936, p. 210.

Cites a record of two specimens of the Western Pigeon Hawk from Louisiana.

- 1936.—LINCOLN, FREDERICK CHARLES. *Recoveries of Banded Birds of Prey*. Bird-Banding, Vol. VII, No. 1, January, 1936, pp. 38-45.

Includes a number of records of both banding and recoveries of birds in Louisiana.

- 1936.—LINCOLN, FREDERICK CHARLES. *Returns of Banded Birds: Second Paper*. Bird-Banding, Vol. VII, No. 3, July, 1936, pp. 121-128.

Includes several records of bird banding returns from Louisiana.

- 1936.—LINCOLN, FREDERICK CHARLES. *Returns of Banded Birds: Third Paper*. Bird-Banding, Vol. VII, No. 4, October, 1936, pp. 139-148.

Includes records of the American Pintail and Green-winged Teal banded in Louisiana.

- 1936.—MCILHENNY, EDWARD AVERY. *Purple Gallinules (Ionornis martinica) are Predatory*. The Auk, Vol. LIII, No. 3, July 3, 1936, p. 327.

Mentions Purple Gallinules in Louisiana.

- 1936.—MCILHENNY, EDWARD AVERY. *Are Starlings a Menace to the Food Supply of Our Native Birds?* The Auk, Vol. LIII, No. 3, July 3, 1936, p. 338.

Notices several species of birds found in Louisiana.

- 1936.—MCILHENNY, EDWARD AVERY. *Unusual Feeding Habits of Some of the Ardeidae*. The Auk, Vol. LIII, No. 4, October 8, 1936, pp. 439-440.

Mentions several species of birds that occur in Louisiana.

- 1936.—PETTINGILL, OLIN SEWALL, JR. *The American Woodcock (Philohela minor Gmelin)*. Memoirs of the Boston Society of Natural History, Vol. IX, No. 2, April, 1936, pp. 169-391, pls. XIII - XXI.

Includes several records of the American Woodcock in Louisiana.

- 1936.—[RICHARDS, RUTH.] *Bird Migration Memorandum No. 1*. Biological Survey, United States Department of Agriculture, April 1, 1936.

Includes a few bird migration records from Louisiana.

- 1936.—WILLIAMS, GEORGE GUION. *The Report*. The Gulf Coast Migrant, No. 1, for February, 1936 [March 14, 1936], pp. 1-3.

Contains notes on birds from Lake Charles, Louisiana.

- 1936.—WILLIAMS, GEORGE GUION. *The Report*. The Gulf Coast Migrant, No. 2, for March, 1936 [April 12, 1936], pp. 1-4.

Includes a number of records of birds from Louisiana.

- 1936.—WILLIAMS, GEORGE GUION. *The Report*. The Gulf Coast Migrant, No. 3, for April, 1936 [May 16, 1936], pp. 1-5.

Includes records of birds from several localities in Louisiana.

- 1936.—WILLIAMS, GEORGE GUION. *The Report*. The Gulf Coast Migrant, No. 4, for May, 1936 [June 15, 1936], pp. 1-4.

Mention is made of a number of birds from localities in Louisiana.

- 1937.—ALLEN, ARTHUR AUGUSTUS; AND KELLOGG, PETER PAUL. *Recent Observations on the Ivory-billed Woodpecker*. The Auk, Vol. LIV, No. 2, April 8, 1937, pp. 164-184.

Discusses the habits of the Ivory-billed Woodpecker in Louisiana.

- 1937.—ARTHUR, STANLEY CLISBY. *Audubon; An Intimate Life of the American Woodsman*, 1937, pp. 1-517. Published [April] 1937.

Includes a number of records of birds from Louisiana.

- 1937.—BASS, CHARLES CASSEDY. *Rearing Bobwhite Quail in Confinement for Restocking Purposes*. Louisiana Conservation Review, Vol. VI, No. 2, August 1, 1937, pp. 37-41.

Comments on the Louisiana State Quail Hatchery at La Combe, Louisiana.

- 1937.—CRYSTAL, JOHN ADLER. *Bird Banding 1936*. Bulletin Bowdoin College, No. 3, February 1, 1937, pp. 34-37.

Includes records of several American Herring Gulls from Louisiana.

- 1937.—GOWANLOCH, JAMES NELSON. *Biological Natural Resources*. Louisiana Conservation Review, Vol. VI, No. 3, November 1, 1937, pp. 44-45; 63-64.

Mentions several species of birds found in Louisiana.

- 1937.—GRISCOM, LUDLOW. *A Monographic Study of the Red Crossbill*. Proceedings of the Boston Society of Natural History, Vol. XLI, No. 5, January 29, 1937, pp. 77-209.

Includes a record of the Sitka Crossbill from Louisiana.

- 1937.—GROSVENOR, GILBERT, AND WETMORE, ALEXANDER (EDITORS). *The Book of Birds*. Vol. I, June 25, 1937, pp. 1-356; Vol. II, June 25, 1937, pp. 1-374; 204 colored plates and many other illustrations.

Includes records of birds found in Louisiana.

- 1937.—[LOUISIANA DEPARTMENT OF CONSERVATION.] *Ducks Unlimited. Louisiana's Share in the Duck Restoration Program*. Louisiana Conservation Review, Vol. VI, No. 2, August 1, 1937, p. 49.

Mentions great flocks of waterfowl wintering in Louisiana.

- 1937.—MCILHENNY, EDWARD AVERY. *Alligators Interfere with Duck-Banding*. Bird-Banding, Vol. VIII, No. 1, January, 1937, pp. 34-35.

Mentions a number of ducks banded at Avery Island, Louisiana.

- 1937.—MCILHENNY, EDWARD AVERY. *Life History of the Boat-tailed Grackle in Louisiana*. The Auk, Vol. LIV, No. 3, July 2, 1937, pp. 274-295.

Comments on the abundance of the Boat-tailed Grackle in Louisiana.

- 1937.—MCILHENNY, EDWARD AVERY. *A Hybrid Between Turkey Vulture and Black Vulture*. The Auk, Vol. LIV, No. 3, July 2, 1937, p. 384.

Record of a hybrid between the Turkey Vulture and the Black Vulture, trapped in Louisiana.

- 1937.—OBERHOLSER, HARRY CHURCH. *A Revision of the Clapper Rails (*Rallus longirostris* Boddaert)*. Pro-

ceedings of the United States National Museum, Vol. LXXXIV, June 30, 1937, pp. 313-354.

Includes several records of Clapper Rails from Louisiana.

1937.—[RICHARDS, RUTH.] *Bird Migration Memorandum No. 2*. Biological Survey, United States Department of Agriculture, March 1, 1937.

Includes some records of birds from Louisiana.

1938.—FORTIER, JAMES J. A. *Natural History in Bounteous Louisiana; Part 1, Audubon, The Creole Naturalist*, February 20, 1938, pp. 1-71.

Contains a number of references to Louisiana birds.

1938.—GOWANLOCH, JAMES NELSON. *Some Aspects of Louisiana Wildlife*. Louisiana Conservation Review, Vol. VI, No. 4, March 1, 1938, pp. 40-43, 53, 59, 66.

Mentions a few birds as occurring in Louisiana.

1938.—[LOUISIANA DEPARTMENT OF CONSERVATION.] *New Bird Added to Louisiana List*. Louisiana Conservation Review, Vol. VI, No. 4, March 1, 1938, p. 27.

Records a Louisiana specimen of the Holboell Grebe.

1938.—PETERS, JAMES LEE; AND GRISCOM, LUDLOW. *Geographical Variation in the Savannah Sparrow*. Bulletin of the Museum of Comparative Zoölogy, Vol. LXXX, No. 13, January 19, 1938, pp. 445-478, pl. [I.]

In this article there are reported several Louisiana specimens of the Churchill Savannah Sparrow, *Passerculus sandwichensis oblitus*.

1938.—TANNER, JAMES TAYLOR. *Bird-Lore's Thirty-eighth Christmas Census; Singer Tract, Madison Parish, La.* Bird-Lore, Vol. XL, No. 1, February 1, 1938, p. 54.

A list of 34 species of birds noted on the Singer Wild Life Refuge (Singer Preserve), Louisiana, in December, 1937.

INDEX

The following index is intended to comprise all bird names in this bulletin—those of orders, families, genera, species, and subspecies. It includes all mention of such names in the table of contents, list of illustrations, introduction, and the preliminary chapters, as well as the main text, the hypothetical list, and both the titles and comments in the bibliography. All general headings, such as foreword and contents, are also entered, with inclusive pages. Both common and technical names of species and subspecies are indexed; and the reference to the inclusive pages of the principal account of each is printed in bold-faced type. Plural and singular bird names are indexed separately. Important items, other than the names of birds, in the introduction and in the chapters on bird migration and bird protection, are also indexed. All entries, including those of specific and subspecific names of birds, are fully cross-referenced.

Since the titles in the bibliography are there arranged chronologically, they are, for purposes of convenient reference, here indexed under authors' names, and the titles are arranged alphabetically under each, in this arrangement disregarding the words 'a', 'an', and 'the'. All titles are included, except in a few cases where titles by the same author are identical, in which instances only the page reference to each additional title is given. Series of papers by the same titles are arranged by the number of the paper. Those by two or more authors are cross-referenced under each. All the bibliographical references are indicated by the abbreviation (bibliog.).

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